Safety Precautions

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WARNING: DANGEROUS VOLTAGE INSIDE
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

- The **STANDBY** and **VCR POWER** buttons do not completely shut off mains power from the unit, but switches operating current on and off only.
- The rating plate is on the rear of the unit.

WARNING

Any unauthorized changes or modifications to this equipment void the user's authority to operate it.

Introduction

Congratulations on purchasing your new recorder.

You can't wait to get it working, but before you do, spare a few moments to read this brief introduction to the world of video recording. It may repay you handsomely in terms of improved results, and avoiding of costly mistakes.

Positioning

Do not place the recorder directly on top of or underneath your TV set. Ensure that there is at least 20 cm between the recorder and the TV set, and that air can circulate freely through the ventilation openings of the recorder.

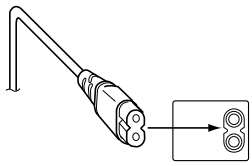
IMPORTANT

Audio-Visual material may consist of copyrighted works which must not be recorded without the authority of the owner of the copyright.
Please refer to relevant laws in your country.

MODEL NO:VR20D/58
PROD. NO:

This product complies with the requirements of the directive 73/23/EEC+89/336/EEC+93/68/EEC.

CAUTION



- To avoid electric shock or damage to the unit, first firmly insert the small end of the mains power cord into the recorder until it is no longer wobbly, and then plug the larger end of the mains power cord into a mains outlet.
- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

D-VHS MTP PAL

- Cassettes marked "D-VHS", "S-VHS" and "VHS" can be used with this video cassette recorder. However, D-VHS recordings are possible only with cassettes marked "D-VHS".
- D-VHS is a new digital memory system that uses D-VHS tapes. D-VHS was developed as a memory system for multimedia applications that require storage for large volumes of information, such as for digital video.

SHOWVIEW®

- SHOWVIEW is a registered trademark of Gemstar Development Corporation. The SHOWVIEW system is manufactured under licence from Gemstar Development Corporation.

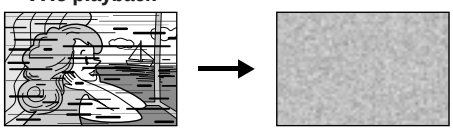
ABOUT HEAD CLEANING

After an extended period of use, the video heads can become dirty, resulting in a loss of picture or sound during playback. If this happens, clean the video heads by using the optional cleaning tapes.

Symptoms of dirty video heads:

- The picture is not clear, or does not appear. There is no sound.
- Mosaic (block) noise appears in the picture.
- Black or mosaic horizontal stripes appear in the picture.
- The picture stops (as if the tape is paused).
- A blank black or blue screen appears.
- The picture is fuzzy. (VHS playback)

VHS playback



Early symptom — Late symptom

D-VHS playback

Block noise — Still image — Black screen

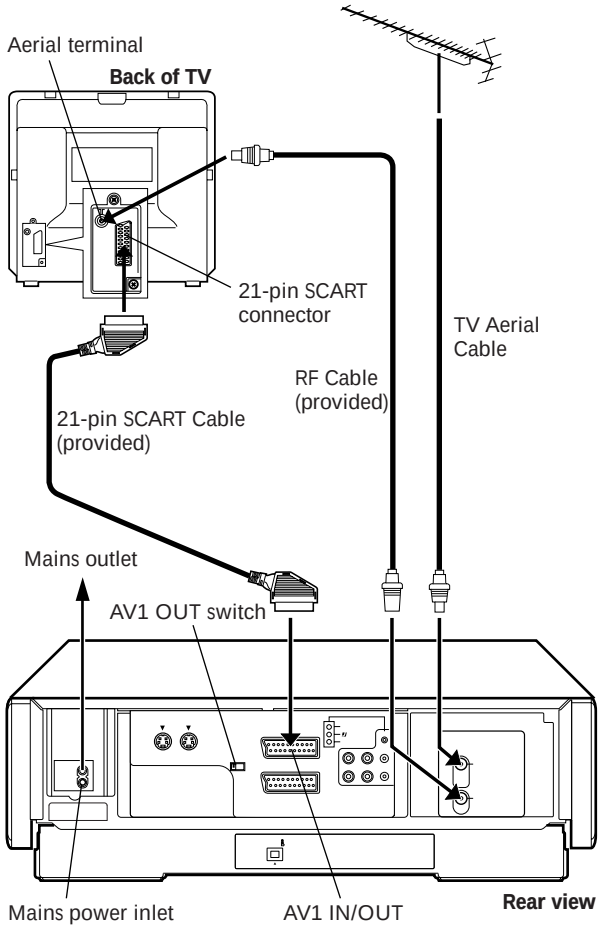
Use a cleaning tape designed specifically for D-VHS video heads to clean the video heads.

- In order to avoid misoperation, set "TAPE MANAGER" to "OFF" (☞ pg. 39).
- Follow the instructions that are provided with the cleaning tape.
- Only use a cleaning tape designed specifically for D-VHS video heads to clean the video heads in this unit.

If you still do not get a clear picture after using a cleaning tape:

- The heads may be worn. Contact your nearest PHILIPS dealer.
- During VHS playback, if there is a tracking problem, the picture may appear fuzzy. Adjust the tracking manually (☞ pg. 17).

Basic Connection



ATTENTION:
Your TV must have a 21-pin AV input connector (SCART) for the connection to the recorder.

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

1 CHECK CONTENTS

Make sure the package contains all of the accessories listed in "Specifications" (☞ pg. 78).

2 SITUATE RECORDER

Place the recorder on a stable, horizontal surface.

3 CONNECT RECORDER TO TV

a– Disconnect the TV aerial cable from the TV.
b– Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
c– Connect the provided RF cable between the ANT. OUT jack on the rear panel of the recorder and the TV's aerial terminal.
d– Connect the provided SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin SCART connector.
e– Set the AV1 OUT switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

4 CONNECT RECORDER TO MAINS

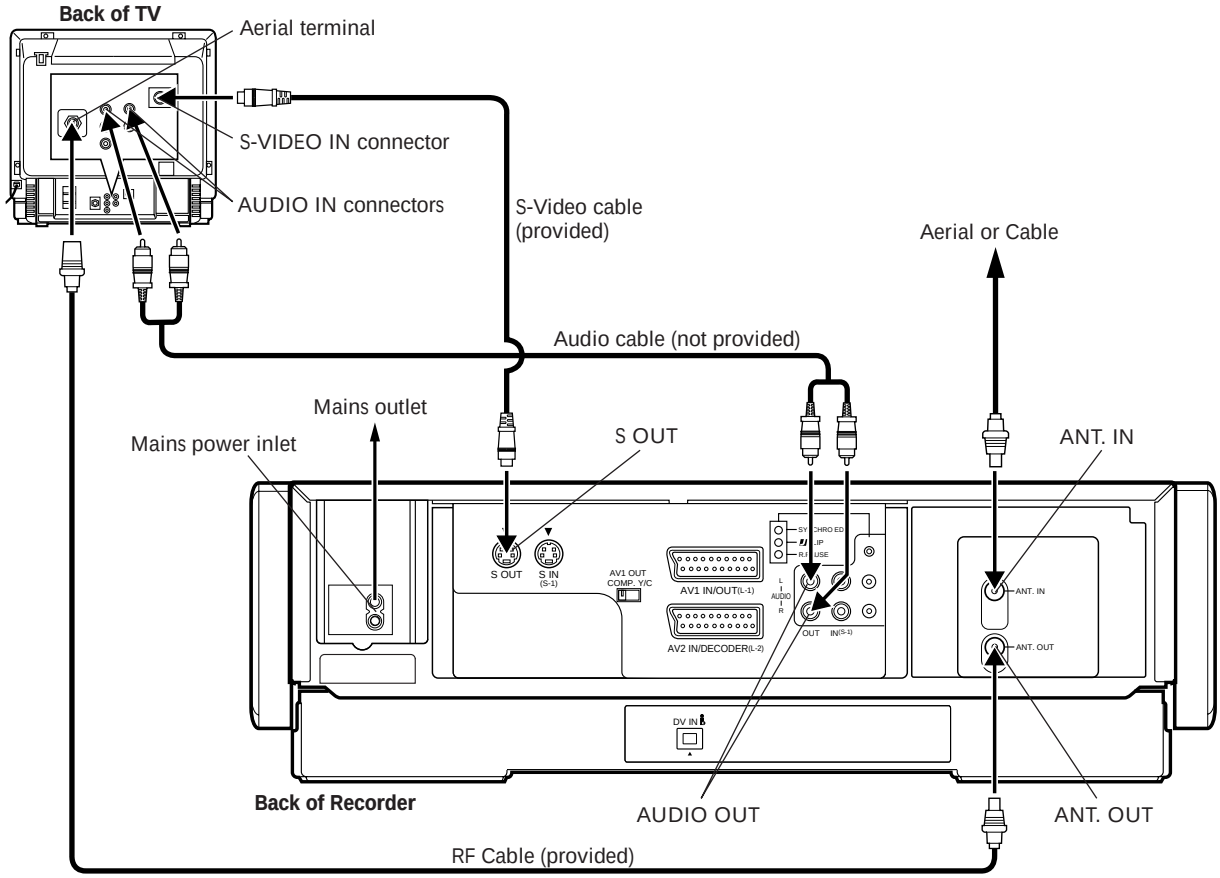
Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when **STANDBY** on the recorder or **VCR POWER** on the remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION
The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (☞ pg. 50). For output signal selection, use **AV1 OUT** switch of the rear panel.
- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:
- *Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.*
- *For switching the TV's mode, refer to the instruction manual of your television.*
- *To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 5.*

S-VIDEO Connection



- *To Connect to A TV With S-VIDEO/AUDIO IN Connectors . . .*

1 CONNECT RECORDER TO TV

a– Connect the aerial, recorder and TV as per "Basic Connection" (☞ pg. 4).
b– Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.
c– Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

2 CONNECT RECORDER TO MAINS

Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

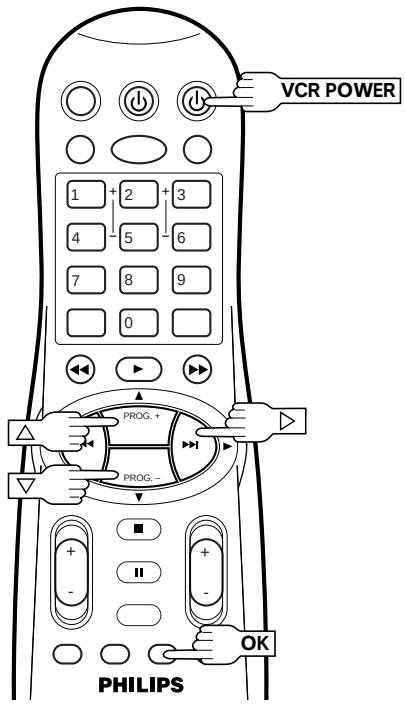
NOTES:

- *You can obtain high-quality S-VHS pictures.*
- *If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 57)*
- *To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode.*
- *For switching the TV's mode, refer to the instruction manual of your television.*

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when **STANDBY** on the recorder or **VCR POWER** on the remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

Auto Set Up

Auto Channel Set/Auto Clock Set/Auto Guide Program Number Set



International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: - -
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

ATTENTION

Once you have performed Auto Set Up, even if the recorder's memory backup has expired, all the stored stations and their Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. You only need to set the clock. (☞ pg. 66)

If you have moved to a different area, perform each setting as required.

- Tuner setting ☞ pg. 58
- Clock setting ☞ pg. 66

If a new station starts broadcasting in your area, perform tuner setting (☞ pg. 58).

When **STANDBY** on the recorder or **VCR POWER** on the remote control is pressed for the first time to power on the recorder after you plug the mains power cord into a mains outlet, the Country Set display will appear on the TV screen and the recorder's front display panel. By simply selecting your country*, the Auto Set Up function sets the tuner channels, clock** and Guide Program numbers automatically.

* If you live in Belgium (BELGIUM) or Switzerland (SUISSE), you also need to select your language.

** If you live in Hungary (MAGYARORSZAG), Czech Republic (CESKA REPUBLIKA), Poland (POLSKA) or other countries in Eastern Europe (OTHER EASTERN EUROPE), set the clock manually.

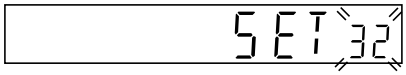
You can refer to the front display panel and/or the on-screen display to perform this procedure.

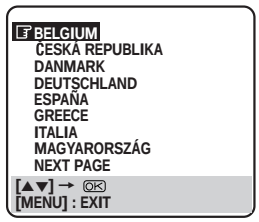
Before starting, make sure of the following:

- The TV aerial cable should be connected to the recorder.
- The recorder's mains power cord should be connected to a mains outlet.
- If you want to use the on-screen display, the TV should be set to its AV mode.

1 TURN ON THE RECORDER

Press **STANDBY** on the recorder or **VCR POWER** on the remote control. The Country Set display appears on the front display panel and/or on the screen.



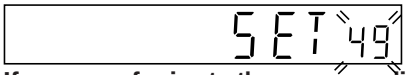


2 SELECT COUNTRY

If you are referring to the front display panel

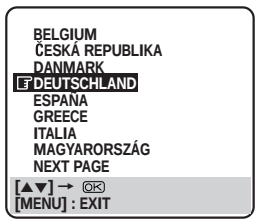
Press △▽ to select your international telephone country code of your country referring to the chart in the left column.

(Ex.) DEUTSCHLAND is selected



If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to your country's name.



NOTE:

*If you have selected BELGIUM (32) or SUISSE (41), go to step **3**. If you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE), press **OK**. The Clock Set screen will appear. Set the clock manually (☞ pg. 66 – 67), then go to step **4**. If you have selected any other country name (code), go to step **4**.*

3 SELECT LANGUAGE

Press **OK**. The Language Set display appears on the front display panel and/or on the screen.

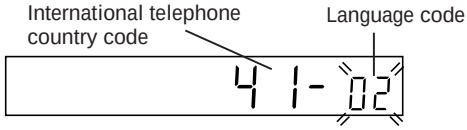
If you are referring to the front display panel

Press △▽ to select your language code.

Language Code

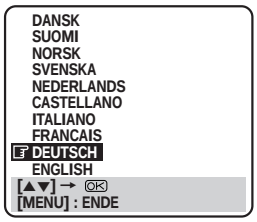
ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

(Ex.) DEUTSCH is selected for SUISSE



If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to the language of your choice.



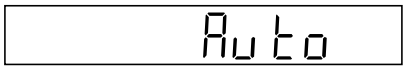
(Ex.) DEUTSCH is selected

4 PERFORM AUTO SET UP

Press **OK**.

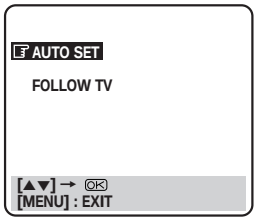
If you are referring to the front display panel

Press △▽ to select "Auto" and press **OK** or ▷.



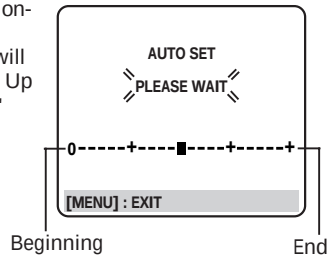
If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to "AUTO SET" and press **OK** or ▷.



"Auto" blinks on the display panel; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH) 1" or "– –:– –" as illustrated on page 9.

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the " ■ " mark on the screen moves from left to right.



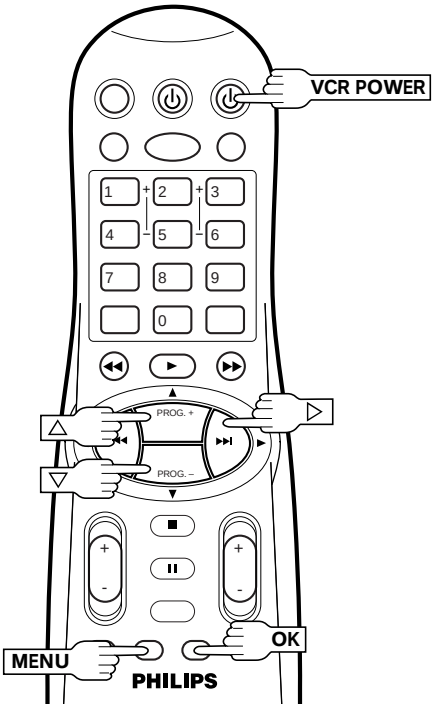
NOTES:

- *Auto channel set function takes place first; it assigns automatically all receivable stations in your area.*
- *Auto clock set function sets the clock automatically by reading the clock setting data from a station transmitting a PDC signal while auto channel set is being performed.*
- *During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the Guide Program numbers assigned by the SHOWVIEW system for those stations according to the broadcast area.*
- *In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.*
- *If there is a power cut, or if you press **STANDBY**, **VCR POWER** or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and try again from step **1**.*
- *Auto clock may not function properly depending on the reception condition.*
- *If no sound accompanies the picture or the audio suounds unnatural on some channels that have been stored by Auto Set Up, the TV system setting for those channels may be incorrect. Select the appropriate TV system for those channels. ☞ "INFORMATION" on page 64.*

Preset Download

You can use this function only with the TV offering EasyLink, etc.*

** Compatible with TVs offering EasyLink, T-V Link, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*



When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 6). After downloading is completed, the recorder sets the clock and Guide Program number automatically. For details, refer to the instruction manual for your TV.

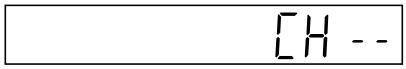
Perform steps **1** to **3** of "Auto Set Up" on page 6 and 7 before continuing.

1 PERFORM PRESET DOWNLOAD

Press **OK**.

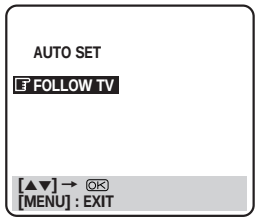
If you are referring to the front display panel

Press △▽ to select "CH – –" and press **OK** or ▷.



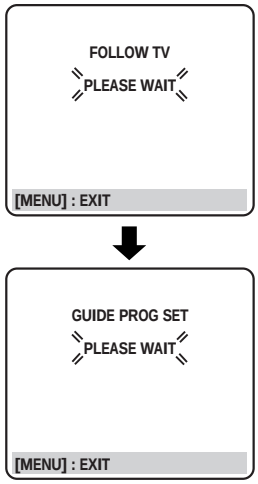
If you are referring to the on-screen display

Press △▽ to move the highlight bar (pointer) to "FOLLOW TV" and press **OK** or ▷.



Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH) 1" or "– –:– –" as illustrated on page 9.

- If you are using the on-screen display, the FOLLOW TV screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, it will be interrupted.



NOTES:

- *In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.*
- *If there is a power cut, or if you press **STANDBY**, **VCR POWER** or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.*
- *Auto clock may not function properly depending on the reception condition.*
- *When you perform Preset Download function, be sure to use fully-wired 21-pin SCART cable.*
- *On this recorder, the characters available for station's name (ID) are A–Z, 0–9, –, ✱, + and ␣ (space). Some downloaded station's name may differ from those of your TV (☞ pg. 62).*

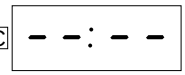
Results of Auto Set Up/Preset Download appear on the front display panel

A

When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed.

B

When auto channel set has been completed successfully but auto clock set has not, "1" (channel position) will be displayed.

C 

When neither auto channel set nor auto clock set has been completed successfully, "– –:– –" will be displayed.

You can check if the Guide Program numbers have been set correctly when you perform the SHOWVIEW Timer Programming (☞ pg. 30); if the correct channel position number is displayed in step **3**, this confirms that the Guide Program number for the SHOWVIEW number you enter in step **2** has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **PROG. +/–** button(s).
- If station names (ID — ☞ pg. 63) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 60 – 64.

B If auto channel set has succeeded but auto clock set has not:

1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **PROG. +/–** button(s).
- If station names (ID — ☞ pg. 63) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
- If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 60 – 64.

2 Perform "Clock Set" on page 66.

C If both auto channel set and auto clock set have failed:

1 Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
- The Country Set display appears on the front display panel and/or on the screen; perform steps **2** – **4** on pages 6 – 7 again or perform the procedure on page 8.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the SHOWVIEW system, the recorder will record a TV programme of a different station. When programming the timer using the SHOWVIEW system, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 30, "SHOWVIEW® Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 61.

INFORMATION

Language for the on-screen display

Auto Set Up also selects the language automatically for the on-screen display depending on the Country setting you have made in step **2** on page 6 (unless you have selected BELGIUM or SUISSE), as shown below.

SUOMI	→ SUOMI	DANMARK	→ DANSK	NEDERLAND	→ NEDERLANDS
PORTUGAL	→ ENGLISH	ÖSTERREICH	→ DEUTSCH	GREECE	→ ENGLISH
DEUTSCHLAND	→ DEUTSCH	ČESKÁ REPUBLIKA	→ ENGLISH	OTHER WESTERN EUROPE	→ ENGLISH
POLSKA	→ ENGLISH	ITALIA	→ ITALIANO	OTHER EASTERN EUROPE	→ ENGLISH
NORGE	→ NORSK	MAGYARORSZÁG	→ ENGLISH		
SVERIGE	→ SVENSKA	ESPAÑA	→ CASTELLANO		

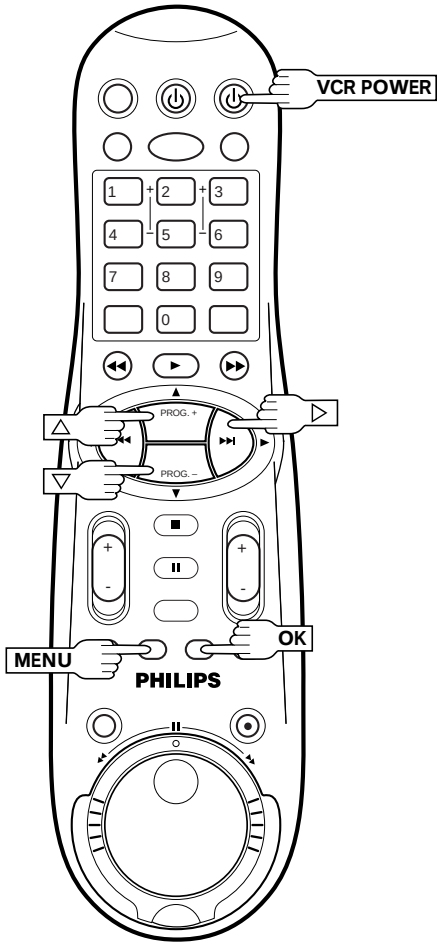
If you want to change the language setting manually, ☞ "Language" on page 10.

Just Clock

Your recorder is equipped with the Just Clock function which provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. If you want to take advantage of this function, simply set it to "ON". ☞ "Just Clock" on page 66.

Language

Turn on the TV and select the AV mode.



This recorder offers you the choice to view on-screen messages in 10 different languages. Though Auto Set Up selects the language automatically (☞ pg. 9), you can change the language setting manually using this procedure as required.

1 TURN ON THE RECORDER

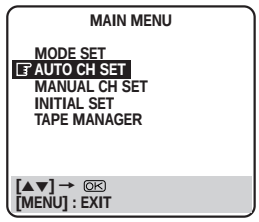
Press **VCR POWER**.

2 ACCESS MAIN MENU

Press **MENU**.

3 ACCESS COUNTRY SET SCREEN

Press △▽ to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or ▷.



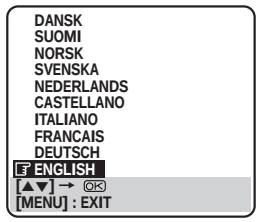
4 SELECT COUNTRY

Press △▽ to move the highlight bar (pointer) to your country's name, then press **OK** or ▷.

5 SELECT LANGUAGE

Press △▽ to move the highlight bar (pointer) to the language of your choice.

- You do not have to press **OK**; pressing **OK** enters the AUTO SET/FOLLOW TV screen.

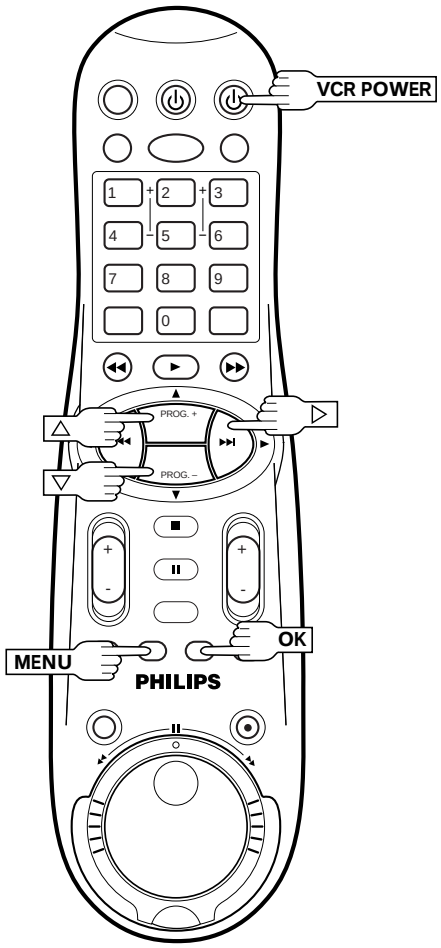


6 RETURN TO NORMAL SCREEN

Press **MENU.**

On-Screen Displays

Turn on the TV and select the AV mode.



You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF. Messages appear in the selected language (☞ pg. 9 or 10).

1 TURN ON THE RECORDER

Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

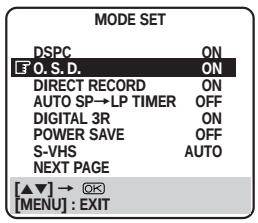
Press **MENU**.

3 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.

4 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step **5**. If you don't want the displays to appear, press △▽ to move the highlight bar (pointer) to "O.S.D." and press **OK** or ▷ to set "O.S.D." to "OFF".



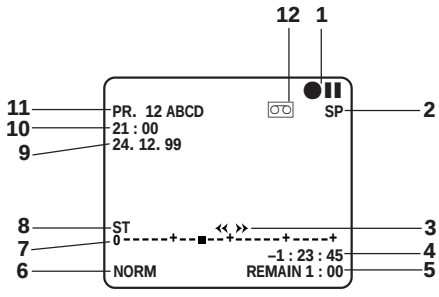
5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.*
- *During playback, the operation mode indicators may be disturbed depending on the type of tape being used.*

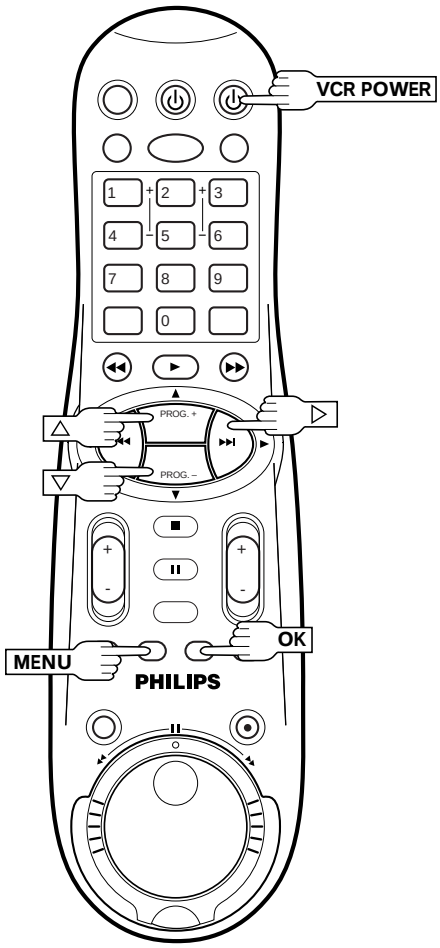
The superimposed indication on the TV screen tells you what the recorder is doing.



1– Operation mode indicators
2– Tape speed SP/LP/EP (EP is for NTSC playback only)
3– Tape direction
4– Counter display
5– Tape remaining time indicator (☞ pg. 25)
6– Audio mode display (☞ pg. 21)
7– Tape position indicator (☞ pg. 15)
8– Type of Broadcast (☞ pg. 27)
9– Current day/month/year
10– Clock display
11– Channel position number and station name/Aux. indicator (DV, L-1, L-2, F-1, S-1 or S-2)
12– Cassette loaded mark

Power Save Mode

Turn on the TV and select the AV mode.



You can reduce the power consumption while the recorder is turned off.

1 TURN ON THE RECORDER

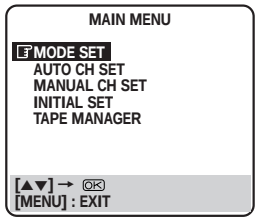
Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

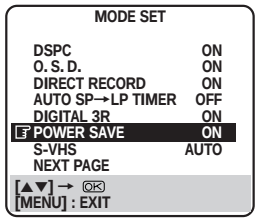
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4 SELECT POWER SAVE MODE

Press △▽ to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or ▷ to set to "ON".



5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *During Power Save, the display panel will be turned off.*
- *The Just Clock function (☞ pg. 66) does not work while the Power Save mode is engaged.*
- *While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.*
- *Power Save does not work when ...*
  ... the recorder is in the Timer mode.
  ... the recorder's power is turned off after timer-recording (or One Touch Recording).
  ... the Auto Satellite Prog Recording mode is engaged (☞ pg. 37).
  ... "AV2 SELECT" is set to "DECODER" or "SAT" (☞ pg. 50).

EasyLink Functions

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), the following functions are available. You can use these functions only with the TV offering EasyLink, etc.*
For details, refer to the instruction manual for your TV.

** Compatible with TVs offering EasyLink, T-V Link, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.*

NexTView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.
For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.
For details, refer to the instruction manual for your TV.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder.
For details, refer to the instruction manual for your TV.

Direct Recording

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.
Follow the procedure below to use this function.

1 TURN ON THE RECORDER

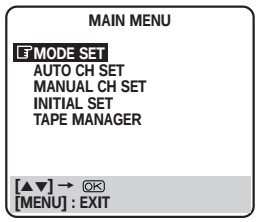
Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

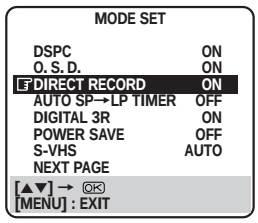
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4 SELECT DIRECT RECORD MODE

Press △▽ to move the highlight bar (pointer) to "DIRECT RECORD", then press **OK** or ▷ to set to "ON".



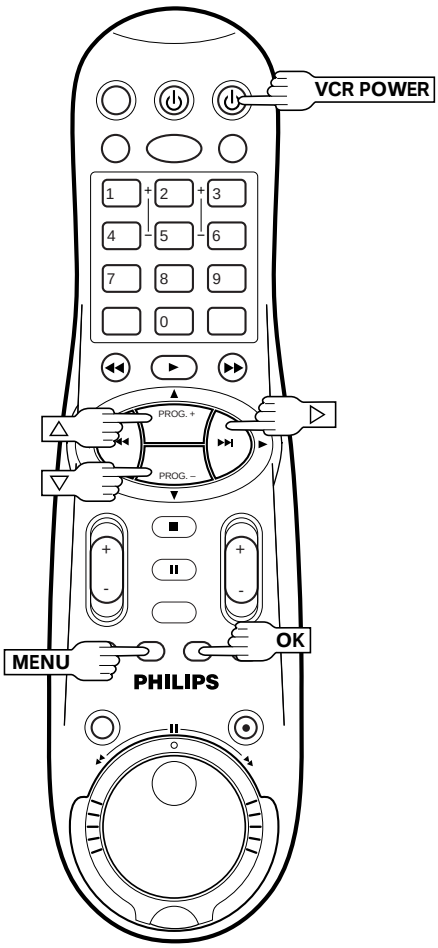
5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If "DIRECT RECORD" is set to "OFF", the **RECORD** button functions as described in "Basic Recording" (☞ pg. 22).*
- *During the Direct Recording, "– –" appears on the display panel.*
- *When you perform EasyLink functions, be sure to use the fully-wired 21-pin SCART cable.*
- *When you connect the recorder and TV using both the fully-wired 21-pin SCART cable and S-Video cable, the Direct Recording is not possible if the TV's input mode is set to its front "S-VIDEO IN".*

Colour System Set (S-VHS/VHS Mode Only)



NOTES:

About NTSC Playback

- *Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.*
- *The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)*
- *The counter and tape remaining time readings will be incorrect.*
- *During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.*
- *Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.*

You can play back PAL, NTSC and MESECAM tapes, or record PAL and SECAM* signals on this recorder. Follow the procedure below to select the appropriate colour system.

* SECAM signals will be recorded as MESECAM on this recorder; MESECAM is the designation for tapes with SECAM signals that have been recorded on a MESECAM-compatible PAL video cassette recorder.

1 TURN ON THE RECORDER

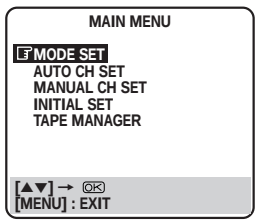
Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

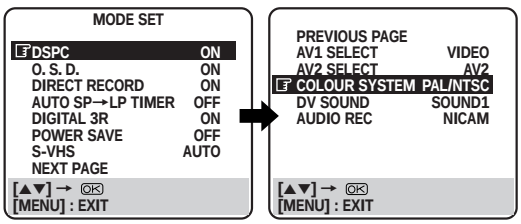
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4 SELECT COLOUR SYSTEM MODE

Press △▽ to move the highlight bar (pointer) to "COLOUR SYSTEM", then press **OK** or ▷ to select the appropriate colour system.



a- PAL/NTSC: To record PAL signals, or play back a PAL or NTSC tape.

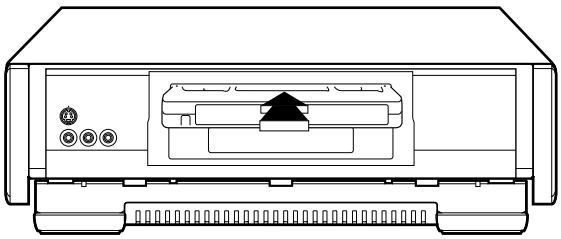
b- MESECAM: To record SECAM signals, or play back a MESECAM tape.

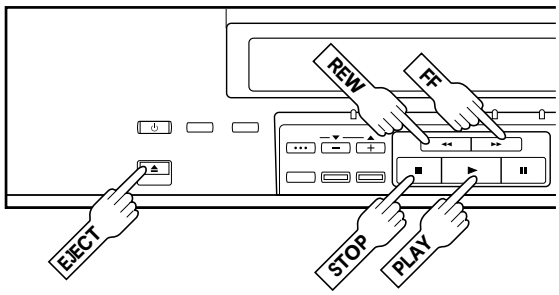
5 RETURN TO NORMAL SCREEN

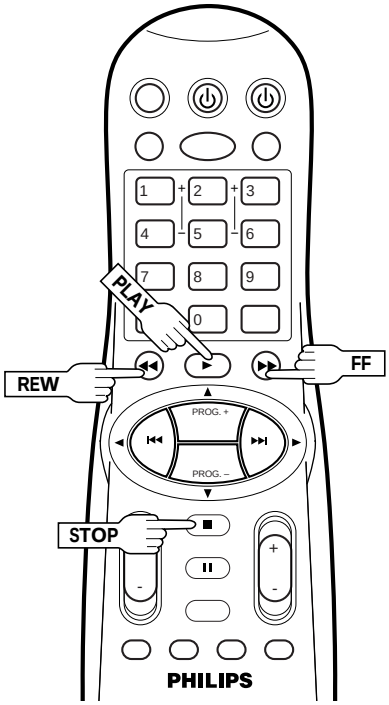
Press **MENU**.

Basic Playback

Turn on the TV and select the AV mode.







The easiest, most basic operation possible with your video recorder is tape playback. Already-recorded signals on a video tape are read by your video recorder and displayed on your TV just like a TV programme.

- This recorder can play back tapes that have been recorded in D-VHS (MTP), S-VHS and VHS formats.
- When playing back a tape, this recorder automatically identifies the recording format (D-VHS, S-VHS, or VHS).

1 LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the recorder. Do not apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.
- If the record safety tab has been removed, playback begins automatically.

2 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW**. To go forward, press **FF**.

3 START PLAYBACK

Press **PLAY**. "DSPC" appears blinking in the recorder's display panel during automatic tracking (only cassettes recorded in the S-VHS or VHS mode ☞ pg. 28).

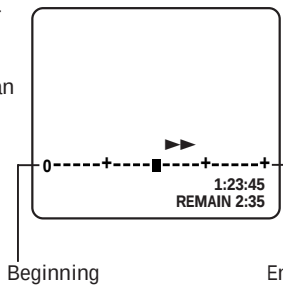
4 STOP PLAYBACK

Press **STOP**. Then press **EJECT** to remove the cassette.

Tape Position Indicator

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

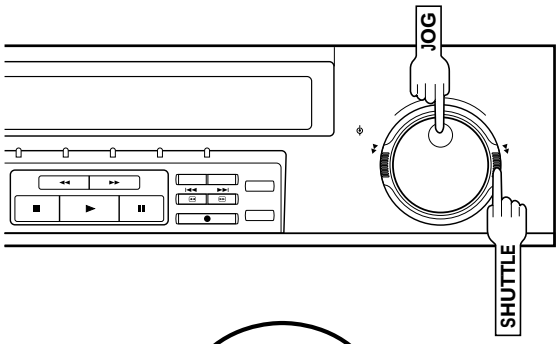
"O.S.D." (☞ pg. 11) must be set to "ON", or the indicator will not appear.

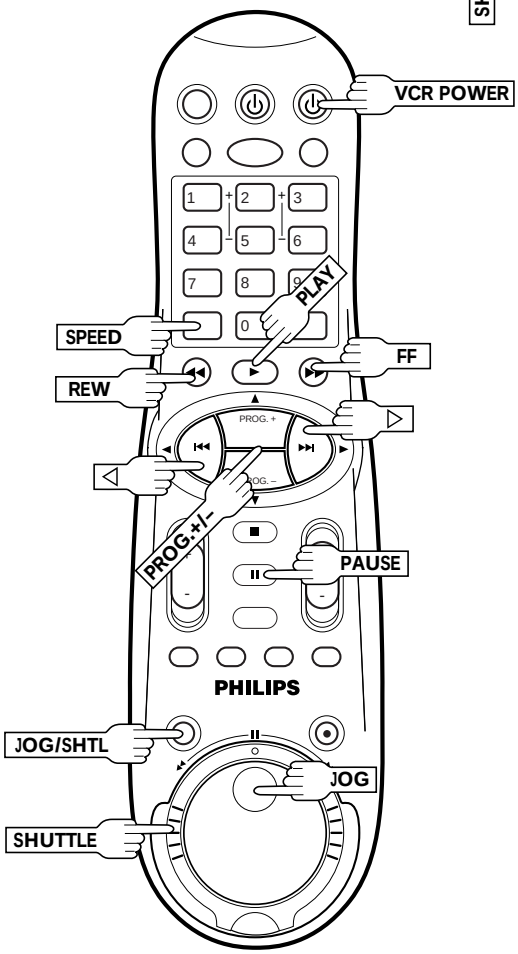


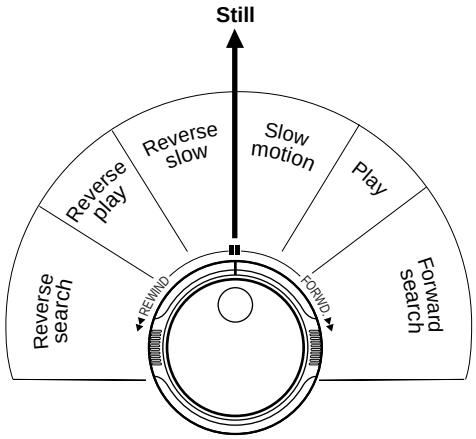
NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.

Playback Features







NOTES:

- *The operations using the **JOG** dial or **SHUTTLE** ring are not possible with casstte recorded in D-VHS mode.*
- *Refer to the **SHUTTLE** ring illustration above as you read the following procedures.*
- *To use the remote control's **JOG** dial or **SHUTTLE** ring, press **JOG/SHTL** first so that the button lights. Pressing the button again turns off the light.*
- *If the recorder is left in still or forward slow motion mode for over 5 minutes, it will automatically go into stop mode.*
- *If the recorder is left in reverse slow motion mode for over 30 seconds, it will automatically go into stop mode.*

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE.**

2 ACTIVATE FRAME-BY-FRAME PLAYBACK (S-VHS/VHS MODE ONLY)

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE**.

OR

Press ◁ or ▷.

To resume normal playback, press **PLAY**.

ATTENTION (S-VHS/VHS Mode Only)

- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

In the search, still, slow-motion or frame-by-frame playback mode,

- the picture will be distorted.
- the noise bar will appear.
- there may be a loss of colour.

Slow Motion (S-VHS/VHS Mode Only)

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration on page 16).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR

During still picture, press and hold ◁ or ▷. Release to return to still picture.

To resume normal playback, press **PLAY**.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTES:

- *For short searches, press and hold **FF** or **REW** during playback or still picture. When released, normal playback resumes.*
- *Search in D-VHS mode is not possible with cassettes recorded in D-VHS mode on other D-VHS recorders.*

Variable-Speed Search (S-VHS/VHS Mode Only)

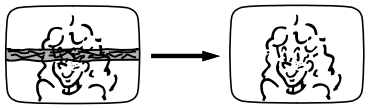
1 ACTIVATE VARIABLE-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration on page 16).

To resume normal playback, press **PLAY**.

Manual Tracking

Your video recorder is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **PROG. +/–** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **SPEED** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **PROG.** (or **PROGRAMME**) **+/–** to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **SPEED** on the remote to re-engage automatic tracking.

NOTE:

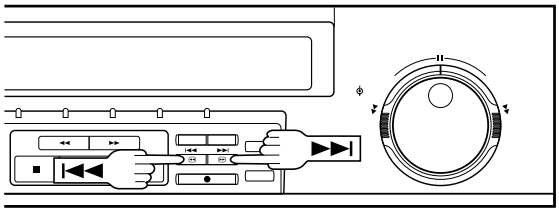
When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

For Automatic Power Off After Tape Rewind . . .

. . . press **REW**, then press **VCR POWER** within 2 seconds.



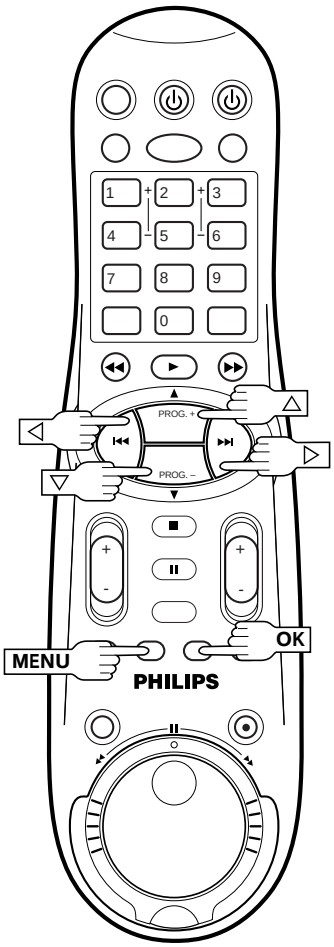
Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

►►I 2

NOTE:

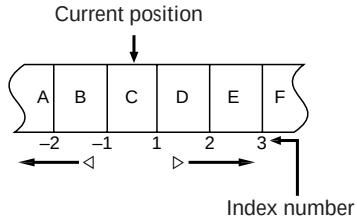
Before starting, make sure the recorder is in the Stop mode.



1 ACTIVATE INDEX SEARCH

Press ◁ or ▷ (I◄◄ or ►►I). "I◄◄ 1" or "►►I 1" is displayed on screen and search begins in the corresponding direction.

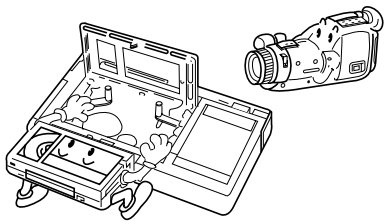
- To access index codes 2 through 9, press ◁ or ▷ repeatedly until the correct index number is displayed.
  Ex.: To locate the beginning of B from the current position, press ◁ twice.
  To locate the beginning of D from the current position, press ▷ once.



- When the specified index code is located, playback begins automatically.

NOTE:

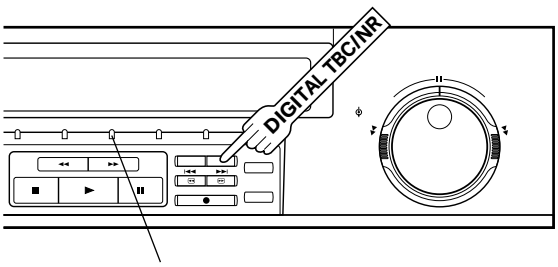
Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.



Digital TBC/NR (S-VHS/VHS Mode Only)

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.
The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.
* The default setting is "ON".

We recommend that you use the Digital TBC feature when...
... playing back a tape recorded on a camcorder.
... playing back a tape repeatedly used.
... using this video recorder as the player for editing.



DIGITAL TBC/NR indicator

1 ACTIVATE DIGITAL TBC/NR

Press **DIGITAL TBC/NR** so that DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press **DIGITAL TBC/NR** again so that the indicator goes off.

NOTES:

- *If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.*
- *When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.*
- *When playing back a MESECAM tape, Digital TBC/NR does not function even though the indicator is lit.*

Digital 3R (S-VHS/VHS Mode Only)

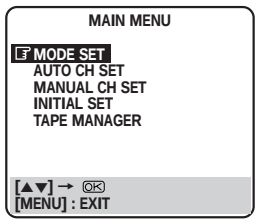
Digital 3R picture system applies edge correction to the luminance and chrominance signals to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

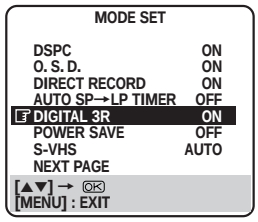
2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.



3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (pointer) to "DIGITAL 3R" by pressing △▽, then press **OK** or ▷ to set to "ON".

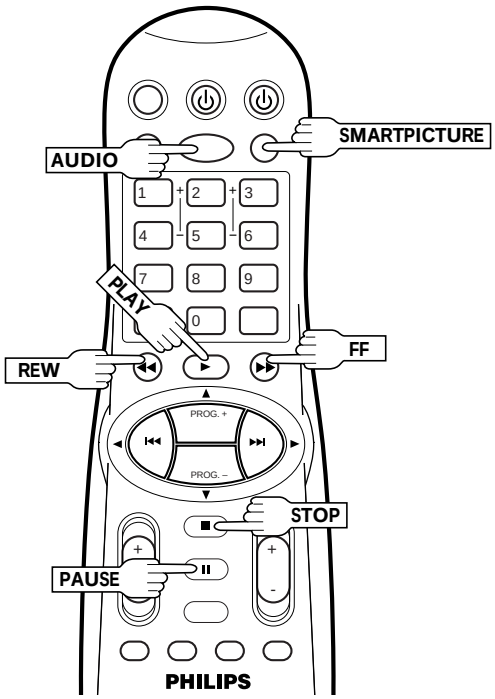


4 RETURN TO NORMAL SCREEN

Press **MENU**.

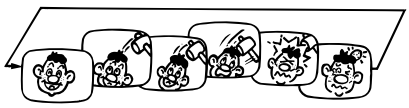
NOTES:

- *Normally it is recommendable to keep "DIGITAL 3R" set to "ON".*
- *Depending on the type of tape being used, picture quality may be better with "DIGITAL 3R" set to "OFF".*



Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.



1 START PLAYBACK

Press **PLAY**.

2 ACTIVATE REPEAT PLAYBACK

Press **PLAY** and hold for over 5 seconds, then release.

- The Play indicator (▷) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3 STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTES:

- *Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.*
- *For a cassette recorded in D-VHS mode, Repeat Playback is possible only if the cassette was recorded in STD (Standard Play) mode.*

SmartPicture

You can make the picture softer or sharper or distinct the picture when playing the tape. SmartPicture is set to AUTO when you receive the recorder.

1 ACCESS SMARTPICTURE MODE SET SCREEN

Press **SMARTPICTURE**. The current setting will appear on the screen for about 5 seconds.

2 SELECT SMARTPICTURE MODE

While the current setting appears, press **SMARTPICTURE** repeatedly, the setting changes as follows.

AUTO

AUTO:
Normally select this mode.

DISTINCT:
Select this mode when you want the distinct picture. The picture detail is emphasized.

SOFT:
Select this mode when you want the soft picture. The signal noise of the picture is softened.

SHARP:
Select this mode when you want the sharp picture. The picture edge is emphasized.

NOTES:

- *It is recommended that the SmartPicture is set to "SOFT" if playback picture is noisy.*
- *When "DSPC" is set to "OFF", "AUTO" is switched to "NATURAL" automatically.*

Soundtrack Selection (S-VHS/VHS Mode)

Your video recorder is capable of recording three soundtracks (Hi-Fi L, Hi-Fi R and NORM) in the S-VHS/VHS mode and will play back the one you select.

During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	L ▷ ◁ R	For Hi-Fi stereo tapes
▷	L ▷	For main audio of Bilingual tapes
◁	◁ R	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
▷ + ◁ + NORM	L ▷ ◁ R NORM	For audio-dubbed tapes

NOTES:

- *"▷ + ◁" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.*
- *For instructions on recording stereo and bilingual programmes, refer to page 27.*
- *"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 11).*

Soundtrack Selection (D-VHS Mode)

Your video recorder is capable of recording two soundtracks (L and R) in the D-VHS mode and will play back the one you select.

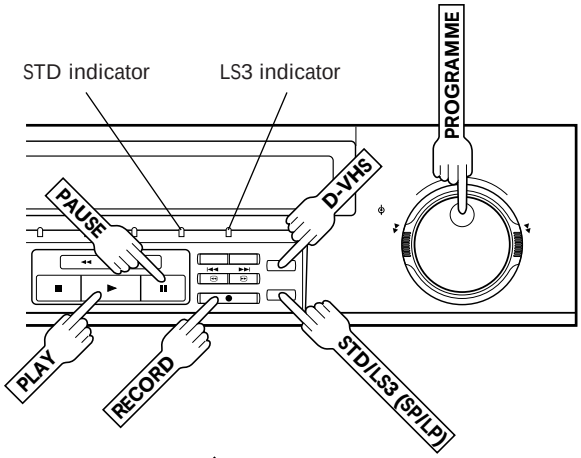
During Playback
Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

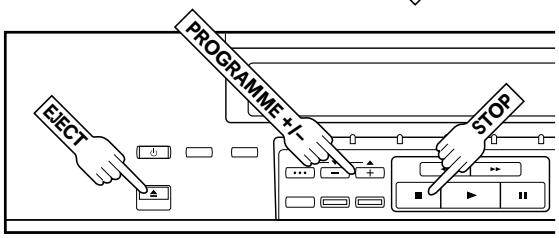
TRACK		USE
Recorder's Front Panel	On-Screen Display	
▷ + ◁	L ▷ ◁ R	For stereo tapes
▷	L ▷	For main audio of Bilingual tapes
◁	◁ R	For sub audio of Bilingual tapes

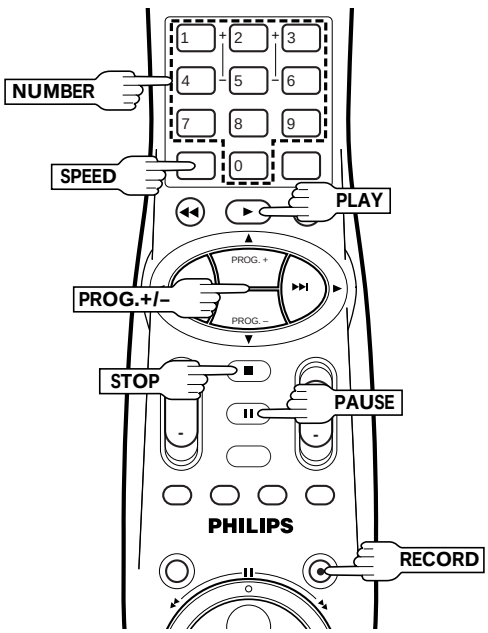
Basic Recording

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape.

Turn on the TV and select the AV mode.







D-VHS Recording

1 LOAD A CASSETTE

Insert a D-VHS cassette with the record safety tab intact.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.
- The STD (or LS3) indicator lights and the D-VHS recording mode is selected automatically.

2 CHOOSE A PROGRAMME

Press **PROG.** (or **PROGRAMME**) **+/–** or the **NUMBER** keys to select the channel you wish to record.

- The **PROGRAMME** dial can also be used to select a channel.

3 SET TAPE SPEED

Press **STD/LS3 (SPEED)**. Check the STD or LS3 indicator to confirm the selected tape speed.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

If "DIRECT RECORD" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 13).

5 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

6 STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.

NOTE:

*To record in the S-VHS or VHS mode on a D-VHS cassette, press **D-VHS** so that the STD (or LS3) indicator goes off (☞ pg. 26).*

Compatibility Of Cassettes And Recording Mode

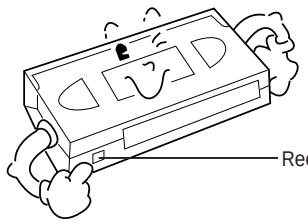
Cassette	Recording Mode		
	D-VHS	S-VHS	VHS
D-VHS	Yes	Yes	Yes
S-VHS	No	Yes	Yes
VHS	No	No	Yes

NOTES:

- *The D-VHS (MTP), S-VHS and VHS mode recordings are possible with this recorder.*
- *To record in the D-VHS mode, use a D-VHS cassette.*
- *To record in the S-VHS mode, you can use a S-VHS or D-VHS cassette.*
- *To record in the VHS mode, you can use a VHS, S-VHS or D-VHS cassette.*

Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



S-VHS/VHS Recording

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact.

- The counter is reset to 0:00:00 and the recorder power comes on automatically.
- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.

2 CHOOSE A PROGRAMME

Press **PROG.** (or **PROGRAMME**) **+/–** or the **NUMBER** keys to select the channel you wish to record.

- The **PROGRAMME** dial can also be used to select a channel.

3 SET TAPE SPEED

Press **SP/LP (SPEED)**. Check the SP/LP indicator on the front display panel to confirm the selected tape speed.

4 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

DSPC takes place at the beginning of both the first SP and the first LP recording after inserting the cassette.

If "DIRECT RECORD" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 13).

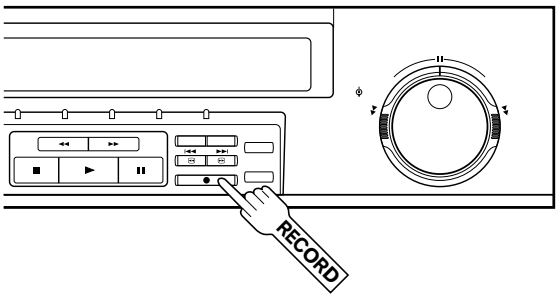
5 PAUSE/RESUME RECORDING

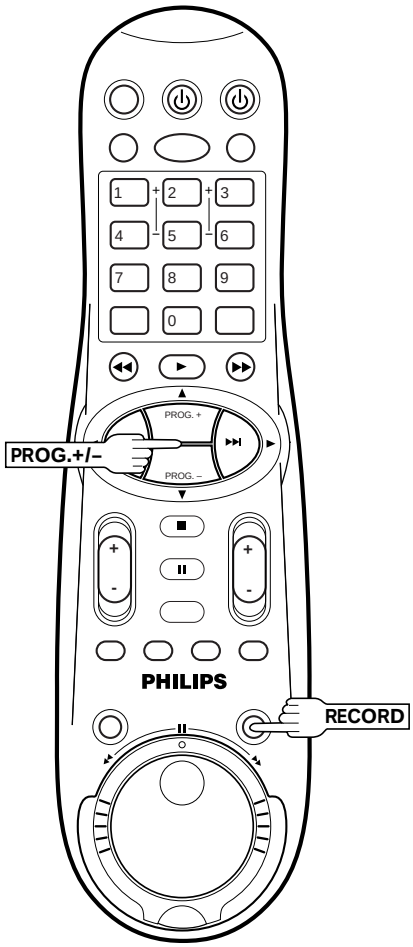
Press **PAUSE**. Press **PLAY** to resume recording.

6 STOP RECORDING

Press **STOP**. Then press **EJECT** to remove the cassette.

Recording Features





Record One Programme While Watching Another

1 SELECT CHANNEL TO WATCH

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The programme selected with the TV's channel controls appears on the TV screen while the one selected with the recorder's **PROG. +/–** buttons is recorded on the tape.
- If a decoder is connected to the recorder (☞ pg. 56), you can select a scrambled channel as well with the TV channel controls.

One Touch Recording (OTR)

This easy method lets you record for from 30 minutes to 8 hours (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

1 START RECORDING

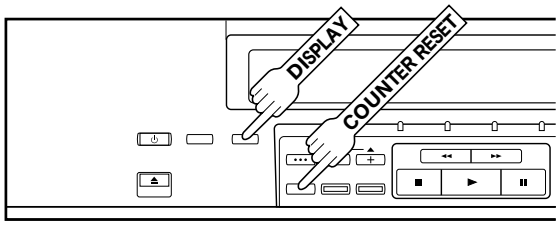
Press **RECORD**.

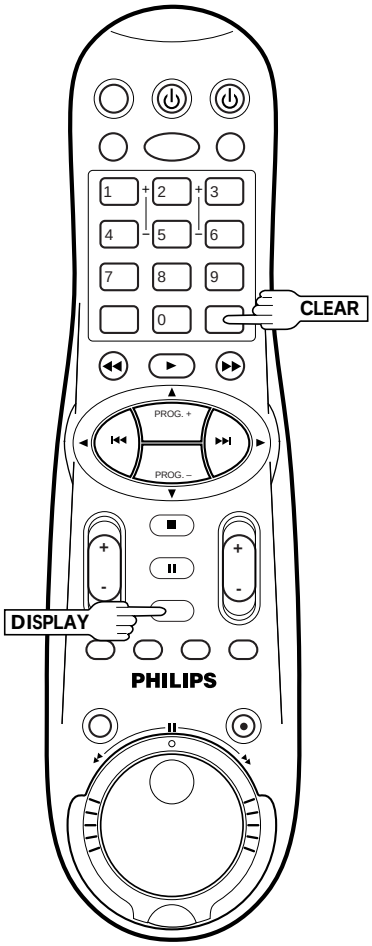
2 ENGAGE OTR MODE

Press **RECORD** again. "◌" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press **RECORD** to extend the time. Each press extends recording time by 30 minutes.





Elapsed Recording Time Indication

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press **DISPLAY** until a counter reading appears on the display panel.

2 RESET COUNTER

Press **CLEAR** (or **COUNTER RESET**) before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Tape Remaining Time

1 DISPLAY REMAINING TIME

Press **DISPLAY** until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "◺" displayed.
- By pressing **DISPLAY**, you can change the display to show the counter reading, channel position*, clock time or tape remaining time.

** channel position is not displayed during playback.*

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "– –:– –" may sometimes appear, or the display may blink on occasion.

S-VHS (Super VHS) And VHS

Your recorder can also record in either S-VHS or VHS.

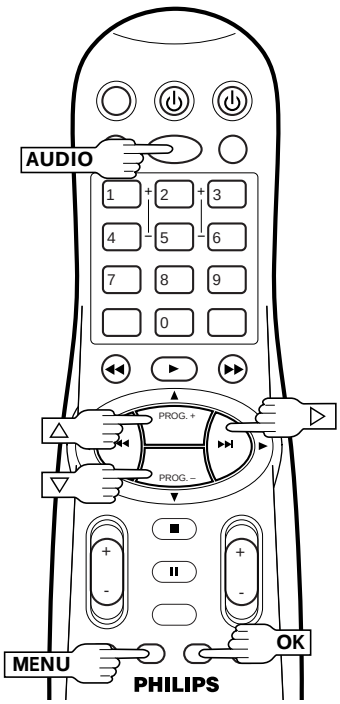
To record in S-VHS on a D-VHS cassette:
Perform the steps **1** – **4** to set "S-VHS" to "AUTO".
Then, insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light.
The S-VHS recording mode will be selected.

To record in VHS on a D-VHS cassette:
Insert a cassette marked "D-VHS" and press **D-VHS** to turn off the D-VHS mode. The STD (or LS3) indicator will go off and the S-VHS indicator on the front display panel will light.
Then, perform the steps **1** – **4** to set the "S-VHS" to "OFF"; the S-VHS indicator will go off.
The VHS recording mode will be selected.

To record in S-VHS on an S-VHS cassette:
Perform the steps **1** – **4** to set "S-VHS" to "AUTO".
Then, insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light.
The S-VHS recording mode will be selected.

To record in VHS on an S-VHS cassette:
Insert a cassette marked "S-VHS". The S-VHS indicator on the front display panel will light.
Then, perform the steps **1** – **4** to set the "S-VHS" to "OFF"; the S-VHS indicator will go off.
The VHS recording mode will be selected.

To record in VHS on a VHS cassette:
Insert a cassette marked "VHS".
The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

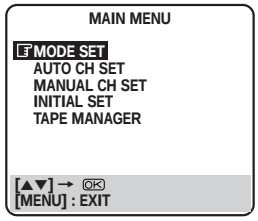


1 ACCESS MAIN MENU SCREEN

Press **MENU**.

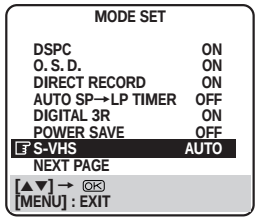
2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.



3 SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing △▽, then press **OK** or ▷ to select "AUTO" or "OFF".



4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.

Receiving Stereo And Bilingual Programmes

Your recorder is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** until "▷" and "◁" appear on the front display panel or "L R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** until "▷" or "◁" appears on the front display panel, or "L" or "R" appears on the screen (as required).
- **S-VHS/VHS mode**
  To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** until "NORM" appears on the front display panel or on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 11).

To Record Stereo And Bilingual Programmes (A2)

- **S-VHS/VHS mode**
  Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound).
  Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.
- **D-VHS mode**
  Stereo programmes are automatically recorded in stereo on the audio track.
  Bilingual programmes are automatically recorded in bilingual on the audio track.

To Record NICAM Stereo And Bilingual Programmes (Only For The Users In The Country Using NICAM)

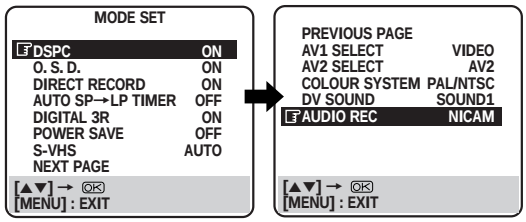
- **S-VHS/VHS mode**
  The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.
- **D-VHS mode** (See "Audio Rec Mode Setting" below.)

NOTES:

- *If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.*
- *Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (☞ pg. 21).*

Audio Rec Mode Setting (D-VHS Mode Only)

1 Press **MENU** to access the Main Menu screen.
2 Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3 Move the highlight bar (pointer) to "AUDIO REC" by pressing △▽, then press **OK** or ▷ to select "NICAM" or "MONO".

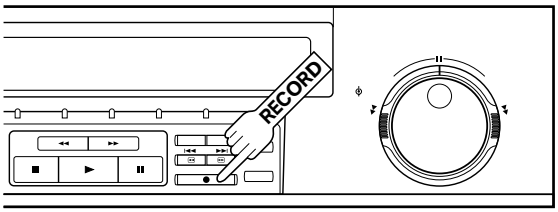


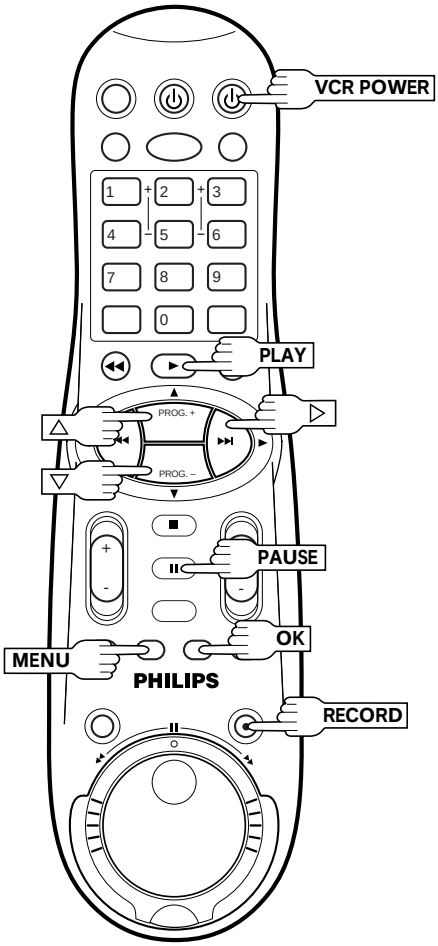
4 Press **MENU** to return to the normal screen.

- When "AUDIO REC" is set to "NICAM", the NICAM audio programme will be recorded on the audio track.
- When "AUDIO REC" is set to "MONO", the Standard (monaural) audio program will be recorded on the audio track.

DSPC (S-VHS/ VHS Mode Only)

Turn on the TV and select the AV mode.





The DSPC (Digital Studio Picture Control) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

Preparation

1 TURN ON THE RECORDER

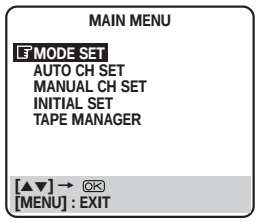
Press **VCR POWER.**

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

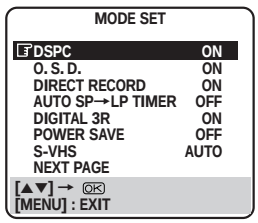
3 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.



4 SELECT DSPC MODE

Press △▽ to move the highlight bar (pointer) to "DSPC", then press **OK** or ▷ to set to "ON" or "OFF".



5 RETURN TO NORMAL SCREEN

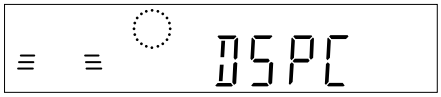
Press **MENU**.

Recording

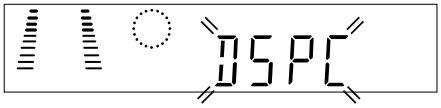
1 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.

DURING DSPC



DSPC COMPLETE



- The recorder spends approximately 7 seconds assessing the condition of the tape, then begins recording.

NOTES:

- *The DSPC system works for both SP and LP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.*
- *The DSPC system does not work while Auto Satellite Prog recording is in progress (☞ pg. 37).*
- *In the case of timer recording, the DSPC system works before recording is initiated.*
- *Once the cassette is ejected, the DSPC data is cancelled. The next time the cassette is used for recording, DSPC is re-performed.*
- *Pressing the recorder's **RECORD** button while "DSPC" is displayed does not start One Touch Recording (☞ pg. 24).*

ATTENTION

*Since the DSPC system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:*

***1)** Press and hold **PAUSE** and press **RECORD** to engage the RECORD PAUSE mode.*
- *The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters RECORD PAUSE.*

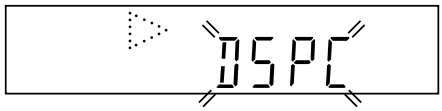
***2)** Press **PLAY** to start recording.*
- *If you want to bypass the DSPC system and begin recording immediately, set "DSPC" to "OFF" in step **4** on page 28.*

Playback

The recorder assesses the quality of the tape once you initiate playback.

1 START PLAYBACK

Press **PLAY**.



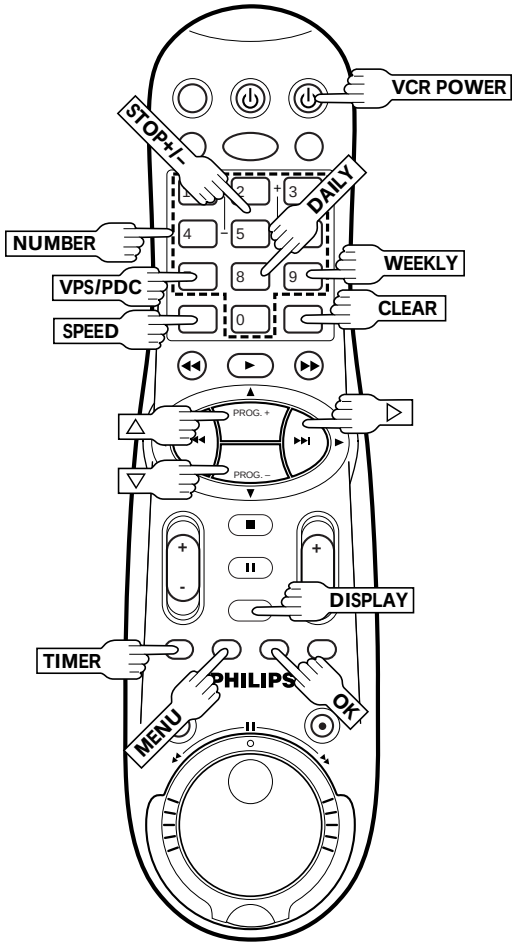
- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- DSPC is active during Auto Tracking. "DSPC" appears blinking on the recorder's display panel.

NOTES:

- *When watching a tape recorded with "DSPC" set to "ON", it is recommended that you leave DSPC on during playback as well.*
- *When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set DSPC to your preference by performing steps **1** through **5** on page 28.*
- *"DSPC" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the DSPC function is operative.*

SHOWVIEW® Timer Programming

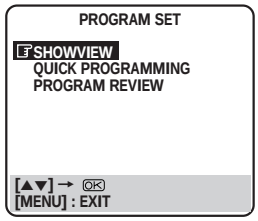
Before performing the SHOWVIEW Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 22, 23).
- Turn on the TV and select the AV mode.



With the SHOWVIEW system, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognize.

1 ACCESS SHOWVIEW SCREEN

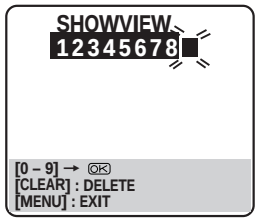
Press **TIMER**.
The PROGRAM SET screen appears.
Press △▽ to select "SHOWVIEW", then press **OK** or ▷.



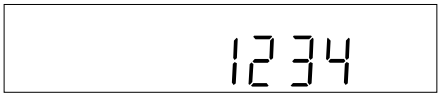
2 ENTER SHOWVIEW NUMBER

Press the **NUMBER** keys to enter the SHOWVIEW number of a programme you wish to record, then press **OK**.

- If you make a mistake, press **CLEAR** and input the correct number.



The SHOWVIEW number you enter appears on the front display panel:

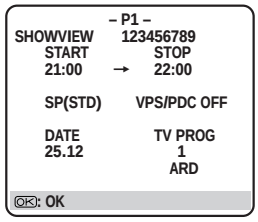


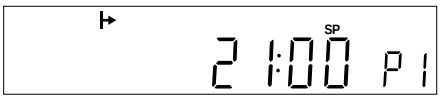
The display panel can show only a 4-digit number.

3 ACCESS SHOWVIEW PROGRAM SCREEN

The SHOWVIEW Program screen appears (if you're just starting out, "P1" appears).

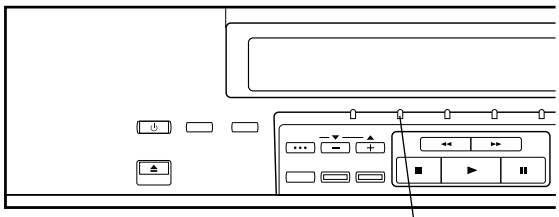
The display panel shows the programme start time. Pressing **DISPLAY** changes the display to the programme stop time, then the date and channel position.





IMPORTANT
Make sure the channel position number you wish to record is displayed; if not, see "SHOWVIEW® Setup" on page 65 and set the Guide Program number for that SHOWVIEW number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press **CLEAR** and input a valid SHOWVIEW number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" on page 31.



◴(TIMER) indicator

4 SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (**SPEED**) to set the tape speed.

S-VHS or VHS mode:
Press **SP/LP** (**SPEED**) to set the tape speed.

5 SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF.
☞ "VPS/PDC Recording" on page 33.

6 RETURN TO NORMAL SCREEN

Press **MENU** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **6** for each additional programme.

7 ENGAGE RECORDER'S TIMER MODE

Press **VCR POWER** to turn off the recorder. The ◴ (TIMER) indicator lights up on the display panel. The ◴(TIMER) indicator on the recorder also lights up.

- To disengage the timer, press **VCR POWER** again.

NOTES:

- *To Change The Stop Time . . .*
  *. . . press **STOP +/–** in step **3**. You can compensate for anticipated programme schedule delays this way.*
- *To Timer-Record Weekly Or Daily Serials . . .*
  *. . . in step **3**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.*
- *You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 34).*
- *It is not possible to timer-record a TV programme with a SHOWVIEW number which starts with "0".*

Satellite Tuner Users

To timer-record a satellite broadcast using the SHOWVIEW system:

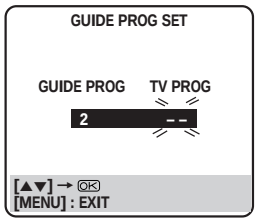
1. Set "AV2 SELECT" to "AV2" or "SAT" (☞ pg. 50).
2. Perform steps **1** – **7**.
3. Set the satellite tuner to the appropriate channel before the selected programme begins.
4. Leave the satellite tuner's power on.

ATTENTION

Regarding Guide Program Number Set

"GUIDE PROG SET" appears after performing step **3** if the Guide Program number for the SHOWVIEW number you entered has not been set.

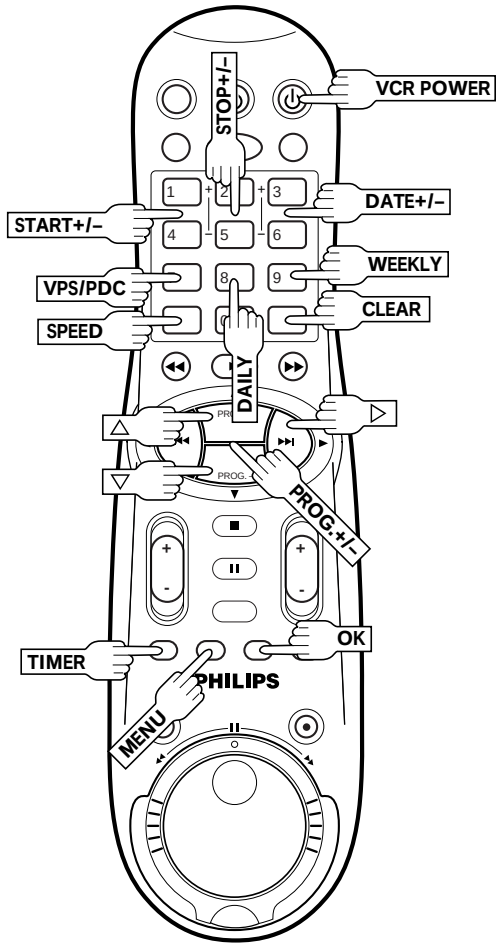
- Press the **NUMBER** keys or △▽ to input the channel position number on which your recorder receives that station, then press **OK** or ▷ to set the Guide Program number. The SHOWVIEW program screen appears.



(Ex.) To timer-record a ZDF programme with the SHOWVIEW system
* If your recorder receives ZDF on the channel position 2, press **OK** or ▷ after entering "2".

Express Timer Programming

Before performing Express Timer Programming:
- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 22, 23).
- Turn on the TV and select the AV mode.

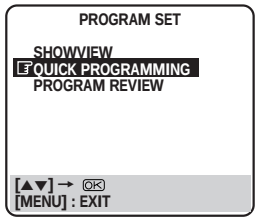


If you don't know the SHOWVIEW number for the programme you wish to record, use the following procedure to set your recorder to timer-record the programme.

1 ACCESS QUICK PROGRAMMING SCREEN

Press **TIMER**.
The PROGRAM SET screen appears.
Press △▽ to select "QUICK PROGRAMMING", then press **OK** or ▷.

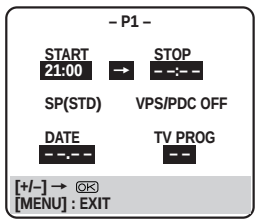
- If you are just starting out, "P1" appears.



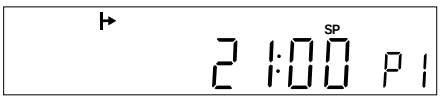
2 ENTER PROGRAMME START TIME

Press **START +/–** to enter the time you want recording to start.

- Press and hold **START +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:



3 ENTER PROGRAMME STOP TIME

Press **STOP +/–** to enter the time you want recording to stop.

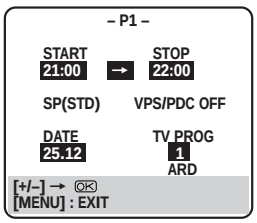
- Press and hold **STOP +/–** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

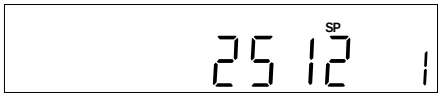
4 ENTER PROGRAMME DATE

Press **DATE +/–**. (The current date appears on screen. The date you enter appears in its place.)

5 ENTER CHANNEL POSITION

Press **PROG. +/–**.





6 SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (**SPEED**) to set the tape speed.

S-VHS or VHS mode:
Press **SP/LP** (**SPEED**) to set the tape speed.

7 SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF.
☞ "VPS/PDC Recording" in the right column.

8 RETURN TO NORMAL SCREEN

After confirming all information is correct, press **MENU** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps **1** – **8** for each additional programme.

9 ENGAGE RECORDER'S TIMER MODE

Press **VCR POWER** to turn off the recorder. The ◴ (TIMER) indicator lights up on the display panel. The ◴(TIMER) indicator on the recorder also lights up.

- To disengage the timer, press **VCR POWER** again.

To Timer-Record Weekly Or Daily Serials . . .
. . . anytime during steps **2** through **8**, press **WEEKLY** (**NUMBER** key "9") for weekly serials or **DAILY** (**NUMBER** key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 34).

Satellite Tuner Users
To timer-record a satellite broadcast using Express Timer Programming:
1. Set "AV2 SELECT" to "AV2" or "SAT" (☞ pg. 50).
2. Perform steps **1** – **9**. Select "L-1" or "L-2" for the channel position in step **5**, depending on the connection to the satellite tuner (☞ pg. 53 – 55).
3. Set the satellite tuner to the appropriate channel before the selected programme begins.
4. Leave the satellite tuner's power on.

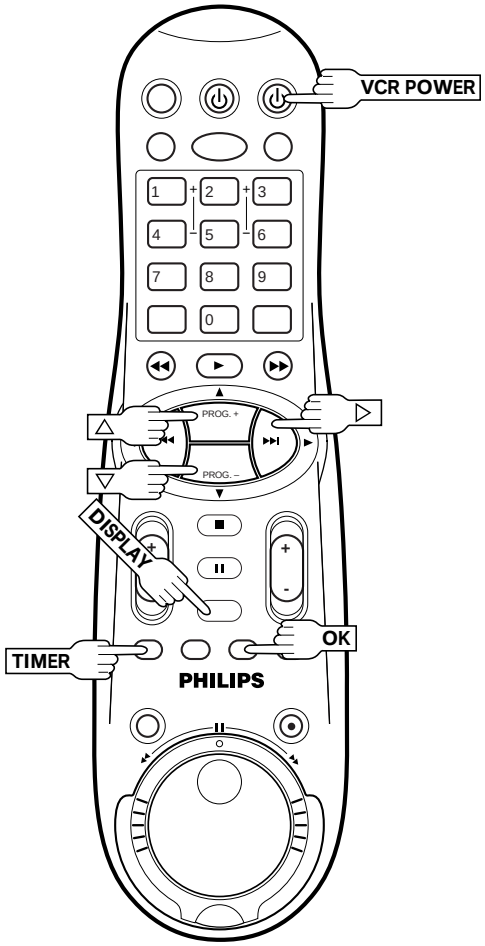
VPS/PDC Recording

Now available from some TV stations, PDC (Programme Delivery Control) and VPS (Video Programme System) are service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

NOTES:

- *When you use Express Timer Programming, set the start time (VPS or PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.*
- *VPS/PDC recording is also possible when a satellite tuner or a cable system is connected to AV2 IN/DECODER on your recorder.*
- *VPS/PDC recording is also possible via the AV1 IN/OUT connector.*

How to check if the station being received transmits a VPS/PDC signal
1. Press **DISPLAY** until the channel position appears on the display panel.
2. Hold down **OK** for about 5 seconds.
   - "VPS/PDC" appears blinking on the display panel.
   If a VPS/PDC signal is detected from the station, "VPS/PDC" will stop blinking.
   If no VPS/PDC signal is detected from the station, "VPS/PDC" will blink at a slower rate.
3. Press **DISPLAY** or **OK** again to return to normal display.



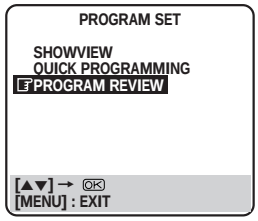
Check, Cancel And Replace Programmes

1 ACCESS PROGRAM SET SCREEN

Press **VCR POWER** to turn on the recorder.
Press **TIMER** to access the PROGRAM SET screen.

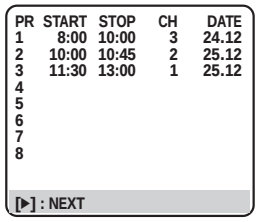
2 ACCESS PROGRAM REVIEW SCREEN

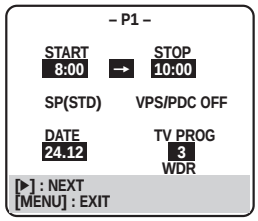
Press △▽ to select "PROGRAM REVIEW", then press **OK** or ▷. The list of the timer recording programmes appears.

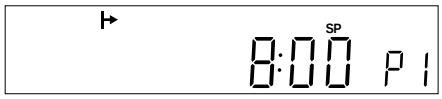


3 ACCESS PROGRAMME SCREEN / DISPLAY

Press **OK** or ▷ to check more information. Each time you press **OK** or ▷, the next programme's information appears.



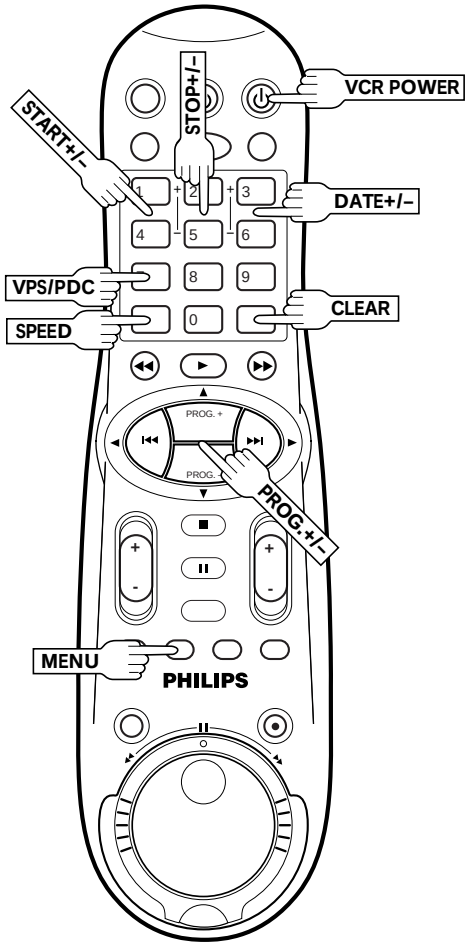




- The display panel shows the programme start time. Pressing **DISPLAY** changes the display to the programme stop time, then the date and the channel position.

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode ☞ pg. 12) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.



To cancel or replace a programme...

4 CANCEL OR REPLACE A PROGRAMME

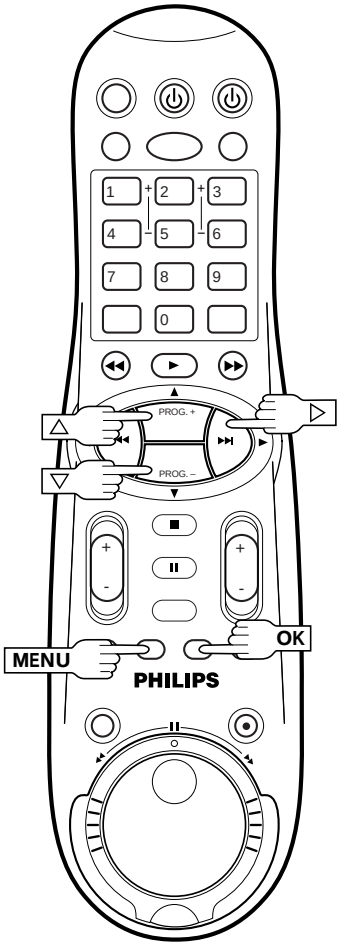
Press **CLEAR** to cancel a programme. To replace a programme, press the appropriate button: **START+/–**, **STOP+/–**, **DATE+/–**, **PROG. +/–**, **VPS/PDC, STD/LS3** (**SP/LP**) (**SPEED**).

5 RETURN TO NORMAL SCREEN / DISPLAY

Press **MENU**. If there are still some programmes remaining, go on to step **6**.

6 RETURN TO TIMER MODE

Press **VCR POWER**.



Auto SP→LP Timer (S-VHS/VHS Mode Only)

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example . . .

Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes	Approximately 60 minutes
SP mode	LP mode

Total 210 minutes

Make sure you set "AUTO SP→LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

1 ACCESS MAIN MENU SCREEN

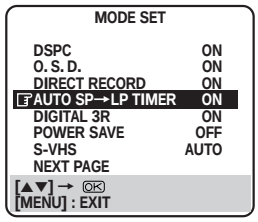
Press **MENU**.

2 ACCESS MODE SET SCREEN

Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.

3 SELECT MODE

Press △▽ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or ▷ to select "ON".



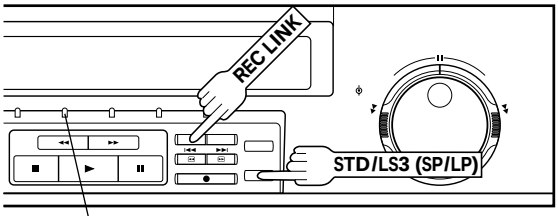
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.*
- *In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.*
- *There may be some noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.*
- *The Auto SP→LP Timer feature is not available during OTR (One Touch Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.*
- *If you perform timer recording with both VPS/PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.*

Automatic Satellite Programme Recording



REC LINK indicator

ATTENTION

- Be sure not to turn on the satellite tuner before the programme is executed; otherwise, the recorder will start recording when the satellite tuner's power is turned on.
- If you have connected another appliance other than a satellite tuner to the AV2 IN/DECODER connector, be sure not to engage the Auto Satellite Prog Rec mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog recording and timer-recording cannot be done at the same time.

This facility allows you to record automatically a satellite programme which is timer-programmed on your external satellite tuner. Connect a satellite tuner to the recorder's AV2 IN/DECODER connector (☞ pg. 53, 54) and programme the timer on the satellite tuner; the recorder starts recording when the signals input from the satellite tuner to the AV2 IN/DECODER connector, and when there is no input signals the recorder stops recording and the power shuts off.

Before performing the following steps:
- Make sure the satellite tuner is connected to the recorder's AV2 IN/DECODER connector. (☞ pg. 53, 54)
- Programme the timer on the satellite tuner.
- Insert a cassette with the safety tab in place.
- Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 22, 23).

1 SELECT AV2 SELECT MODE

Set "AV2 SELECT" to "AV2" (☞ pg. 50).

- When you select "SAT", refer to "IMPORTANT" on page 53.

2 SET TAPE SPEED

D-VHS mode:
Press **STD/LS3** (**SPEED**) to set the tape speed.
S-VHS or VHS mode:
Press **SP/LP** (**SPEED**) to set the tape speed.

3 ENGAGE AUTO SATELLITE PROG REC MODE

Press and hold **REC LINK** on the recorder for about 2 seconds. The REC LINK indicator lights up and the recorder turns off automatically.

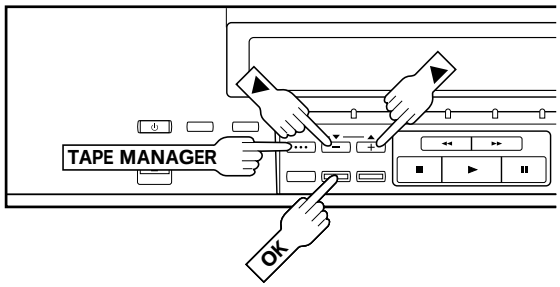
- To disengage the Auto Satellite Prog Rec mode, press **REC LINK**. The REC LINK indicator goes off.
- If the recorder's power is off, it is not possible to engage the Auto Satellite Prog Rec mode.

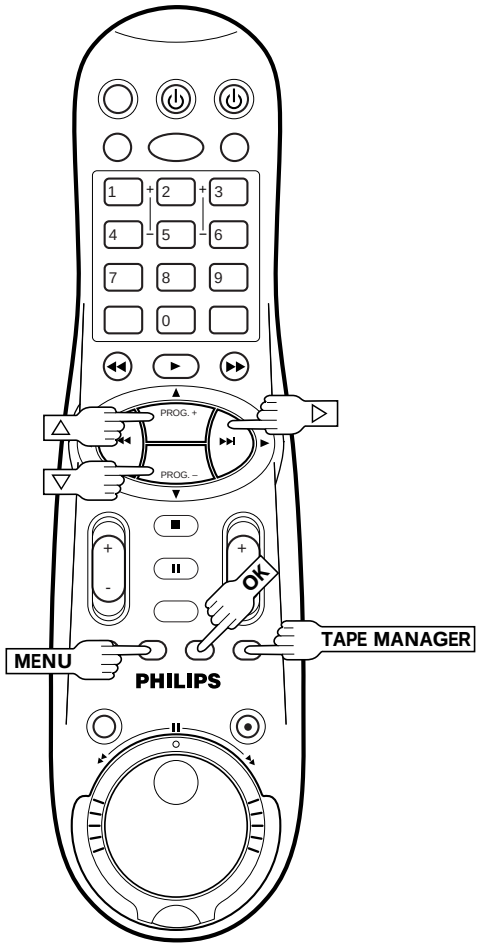
NOTES:

- *Auto Satellite Prog recording is possible with the AV2 IN/DECODER connector only. (☞ pg. 53, 54)*
- *For timer programming of the satellite tuner, refer to the instruction manual of the satellite tuner.*
- *Auto Satellite Prog recording is not possible if your satellite tuner does not have a timer.*
- *The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.*
- *Pressing the recorder's **STANDBY** or **VCR POWER** button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengage the Auto Satellite Prog Rec mode.*
- *If there are more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set the different tape speed per each; the tape speed selected in step **2** will be applicable to all the programmes for Auto Satellite Prog recording.*
- *The DSPC system (☞ pg. 28) does not work while Auto Satellite Prog recording is in progress.*
- *Just Clock (☞ pg. 66) does not work when the Auto Satellite Prog Rec mode is engaged.*
- *Depending on the type of satellite tuner, the recorder may not record a slight portion of the beginning of the programme or may record slightly longer than the actual length of the programme.*
- *If you engage the Auto Satellite Prog Recording mode when the satellite tuner's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite tuner shuts off once and is turned back on again, the recorder starts recording.*
- *You can also record a programme from your cable system in the same way if the system has a timer.*
- *When you press and hold the recorder's **REC LINK** button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite tuner's power is off, Auto Satellite Prog Recording will not work properly with that satellite tuner*.*
  If this is the case, perform "Express Timer Programming" (☞ pg. 32) to timer-record a satellite programme.
  ** Some satellite tuners output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite tuners.*

Tape Manager Functions

Turn on the TV and select the AV mode.





This function is useful when you wish to quickly find out what programmes you have recorded on a tape with this recorder. This function allows you to select a programme to watch, and then automatically searches for the start of the programme.

1 LOAD A RECORDED CASSETTE

Insert a recorded cassette.

- While "– – – –" is blinking on the front display panel, the tape will run for a few seconds to search for the tape number.

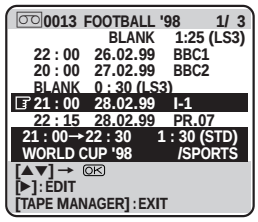
2 ACCESS TITLE SCREEN

Press **TAPE MANAGER**.

- After pressing **TAPE MANAGER**, it may take a few seconds to access the title screen while the recorder searches for the programme information.

3 CHOOSE A PROGRAMME

Press △▽ (or ▲▼) to move the highlight bar (pointer) to the programme you want to watch.



4 START PLAYBACK

Press **OK**. Playback begins automatically after the selected programme is located.

- If you press ▷ instead of **OK**, the editing screen will appear. You can edit the programme title and category (☞ pg. 41).

To start recording on the blank portion of a tape

If you do not record programs consecutively, two tape numbers will be recorded on one tape and the recorder will not be able to search for the correct programme. To continue recording on the blank portion of a tape, follow the procedure described below:

1. Press △▽, and select a "BLANK" item on the program title screen.
2. Press **OK**. The recorder automatically searches for a blank portion on the tape.
3. After confirming that this is the tape on which you really wish to record, begin recording.

Checking Memory

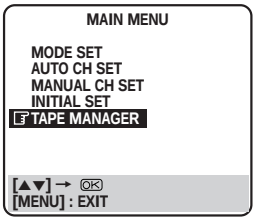
You can check the amount of recorded information in the memory.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS TAPE MANAGER SCREEN

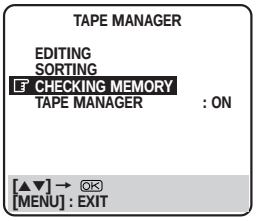
Press △▽ to move the highlight bar (pointer) to "TAPE MANAGER", then press **OK** or ▷.

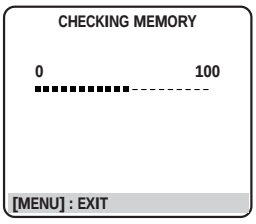


3 CHECK MEMORY

Press △▽ to move the highlight bar (pointer) to "CHECKING MEMORY", then press **OK** or ▷.

- The CHECKING MEMORY screen will appear.





4 RETURN TO NORMAL SCREEN

Press **MENU**.

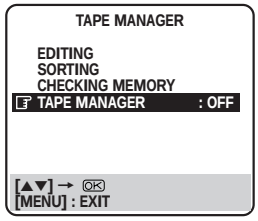
Turn Off Tape Manager

If you don't want to record information on the programmes, set "TAPE MANAGER" to "OFF".

Perform steps **1** to **2** of "Checking Memory" in the left column before continuing.

1 TURN OFF TAPE MANAGER

Press △▽ to move the highlight bar (pointer) to "TAPE MANAGER", then press **OK** or ▷ to set to "OFF".



2 RETURN TO NORMAL SCREEN

Press **MENU**.

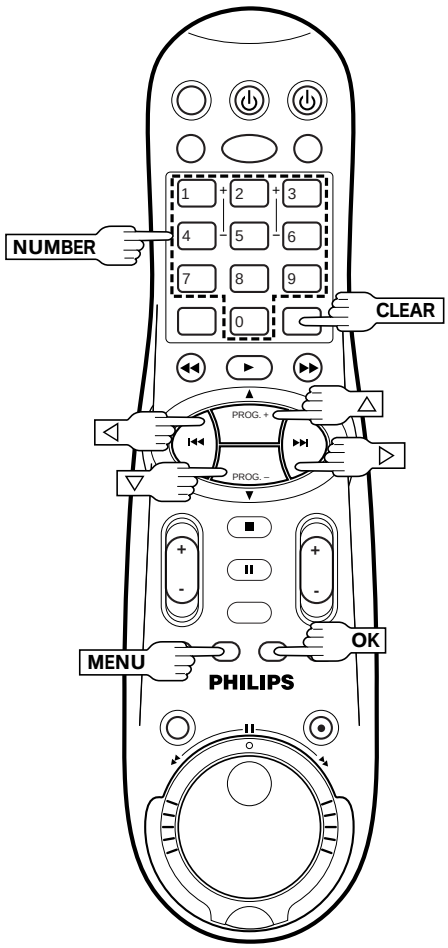
NOTES:

- *Tape Manager is possible with the cassettes recorded with this recorder only.*
- *To record the date and time as the programme title in this recorder's memory, make sure the recorder's clock is set correctly before recording.*
- *To record the programme information in this recorder's memory, you must record each programme for over the minimum recording time; 10 min. for the D-VHS (STD) mode, 30 min. for the D-VHS (LS3) mode, 8 min. for the S-VHS/VHS (SP) mode or 15 min. for the S-VHS/VHS (LP) mode.*
- *Tape Manager may not work properly depending on the cassette being used.*
- *If the recorder finds two tape numbers in one tape while playing back or searching for the beginning of a programme, then when you remove the tape, the tape will be assigned just one number (smaller number).*
- *If you overwrite a programme from the beginning, the "◪" symbol is displayed for the title that was overwritten.*
- *The programme information is stored in this recorder's memory. If the memory in this recorder should ever be damaged and the programme information lost, it is impossible to restore that information.*
- *After recording a tape with this recorder, write the tape number on a label and affix the label to the cassette in order to allow you to find the tape by its number.*

Title Editing

When you record a TV programme with this recorder, the recorder automatically records the recording start time, date, and channel in each programme title. If the tape is recorded for the first time, the tape number and the date and time are recorded in the tape title. You can then edit the tape title and the programme titles as you like. You can also edit the category in the programme title.
In short, you can use the Tape Manager function to create your own video tape library.

Turn on the TV and select the AV mode.



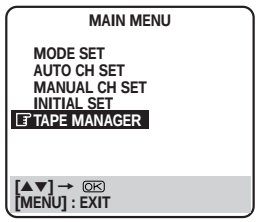
Edit Tape Title

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

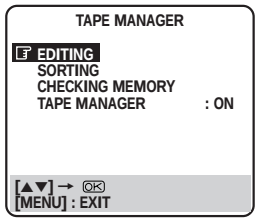
2 ACCESS TAPE MANAGER SCREEN

Press △▽ to move the highlight bar (pointer) to "TAPE MANAGER", then press **OK** or ▷.



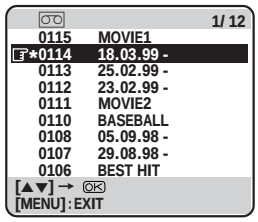
3 ACCESS EDITING SCREEN

Press △▽ to move the highlight bar (pointer) to "EDITING", then press **OK** or ▷.



4 SELECT TAPE NO.

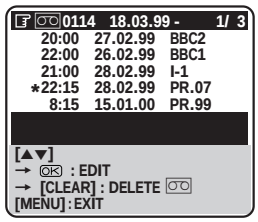
Press △▽ to move the highlight bar (pointer) to the number of the tape whose title you want to edit, then press **OK** or ▷.



- The "*" mark indicates the tape number of the cassette that is currently in the recorder.

5 SELECT TAPE TITLE

Press △▽ to move the highlight bar (pointer) to the tape number, then press **OK** or ▷.



- The "*" mark indicates the current position on the tape.

6 ENTER CHARACTER

Press **NUMBER** keys to enter characters, then press **OK**. For details, refer to "Entering Character" below.

7 RETURN TO NORMAL SCREEN

Press **MENU**.

Entering Character

Press **NUMBER** key, then press ▷ to enter each character. Refer to the example below.

(Ex.) Enter "NEWS"

1. Press **6** (MNO) twice to enter "N", then press ▷.
2. Press **3** (DEF) twice to enter "E", then press ▷.
3. Press **9** (WXYZ) once to enter "W", then press ▷.
4. Press **7** (PQRS) four times to enter "S", then press ▷.

NUMBER KEY	CHARACTER
1	. , / – + ✱ ( ) 1
2	A B C 2 Ä À Á Â Ã Å Æ
3	D E F 3 È É Ë Ê
4	G H I 4 Î Ï Ì Í
5	J K L 5
6	M N O 6 Ö Ô Ò Ó Õ Ø Ñ
7	P Q R S 7
8	T U V 8 Ü Ù Û Ú
9	W X Y Z 9
0	0 _

NOTES:

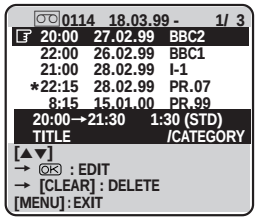
- *If you make a mistake, press ◁▷ to select the character, then enter the correct character.*
- *If you want to delete a character, press ◁▷ to select the character, then press **CLEAR**.*

Edit Programme Title And Category

Perform steps **1** to **4** of "Edit Tape Title" on page 40 before continuing.

1 SELECT PROGRAMME

Press △▽ to move the highlight bar (pointer) to the programme you want to edit, then press **OK** or ▷.

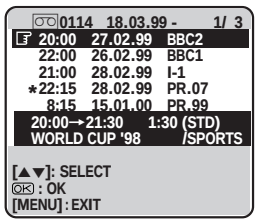


2 ENTER CHARACTER

Press **NUMBER** keys to enter characters, then press **OK**. For details, refer to "Entering Character" in the left column.

3 SELECT CATEGORY

Press △▽ to move the highlight bar (pointer) to select the category you want, then press **OK** or ▷.

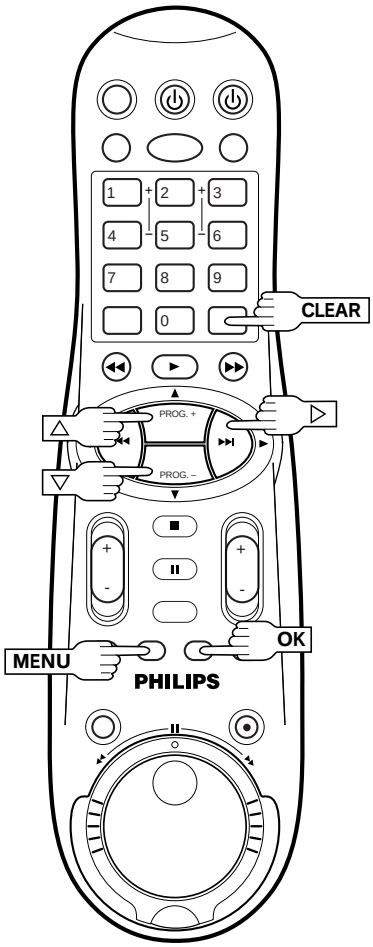


4 RETURN TO NORMAL SCREEN

Press **MENU**.

Choice Of Category

CATEGORY △
△ ▽
MOVIE
△ ▽
SPORTS
△ ▽
SPECIAL
△ ▽
SERIES
△ ▽
SHOW
△ ▽
MUSIC
△ ▽
CHILDREN
△ ▽
NEWS
△ ▽
OTHERS ▽

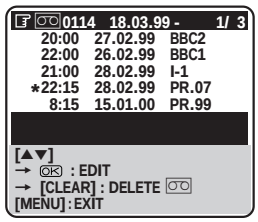


Delete Tape Data

Perform steps **1** to **4** of "Edit Tape Title" on page 40 before continuing.

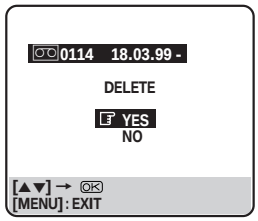
1 SELECT TAPE TITLE

Press △▽ to move the highlight bar (pointer) to the tape number you want to delete, then press **CLEAR**.



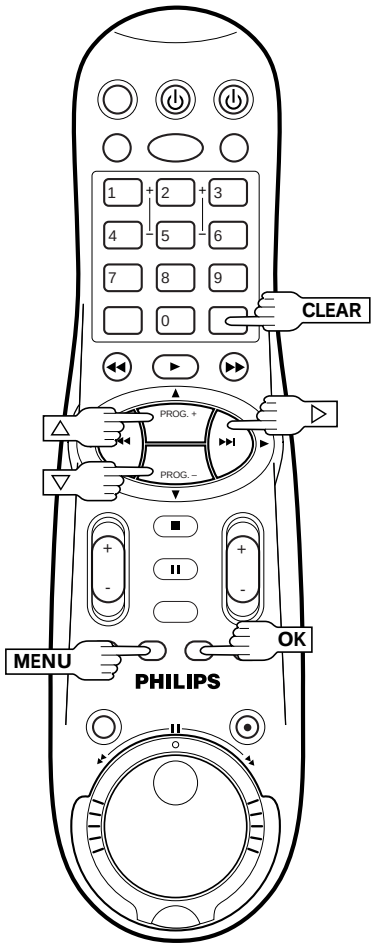
2 DELETE TAPE DATA

Press △▽ to move the highlight bar (pointer) to "YES", then press **OK** or ▷.



3 RETURN TO NORMAL SCREEN

Press **MENU**.

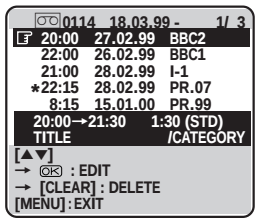


Delete Programme Data

Perform steps **1** to **4** of "Edit Tape Title" on page 40 before continuing.

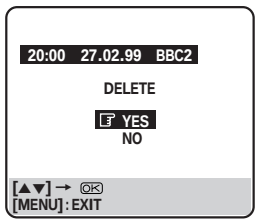
1 SELECT PROGRAMME

Press △▽ to move the highlight bar (pointer) to the programme you want to delete, then press **CLEAR**.



2 DELETE PROGRAMME DATA

Press △▽ to move the highlight bar (pointer) to "YES", then press **OK** or ▷.

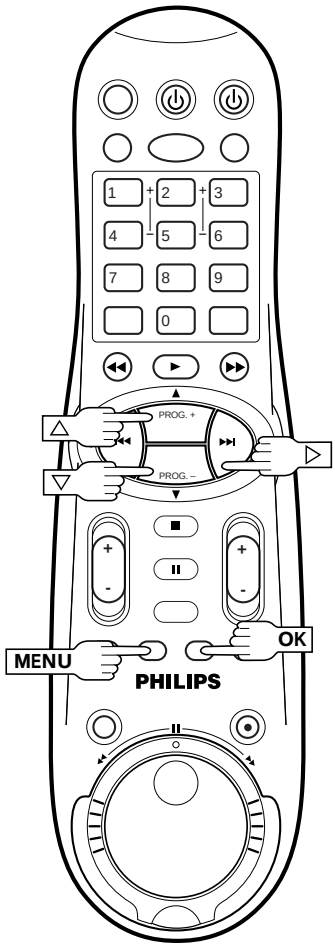


3 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- *When you delete data, only the tape and/or programme information is deleted. The actual recording on the tape is not erased.*
- *If the recorder's memory becomes full, the recorder registers the tape in the library under the smallest tape number that is still available.*



Sorting By Tape Number

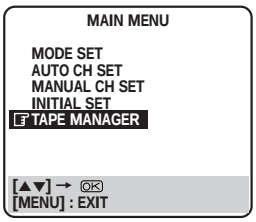
If you have recorded a lot of tapes with this recorder, this function is useful for finding out what is recorded on each tape.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

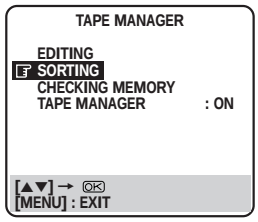
2 ACCESS TAPE MANAGER SCREEN

Press △▽ to move the highlight bar (pointer) to "TAPE MANAGER", then press **OK** or ▷.



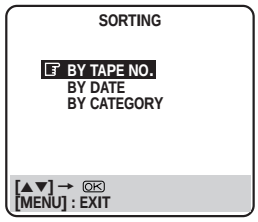
3 ACCESS SORTING SCREEN

Press △▽ to move the highlight bar (pointer) to "SORTING", then press **OK** or ▷.



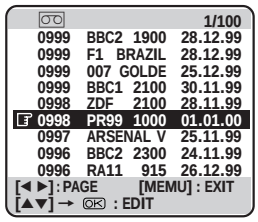
4 ACCESS TAPE NO. SCREEN

Press △▽ to move the highlight bar (pointer) to "BY TAPE NO.", then press **OK** or ▷.



5 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.



- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 40, 41).

6 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

If you wish to play back the programme on the tape you have found, insert the cassette and see the "Tape Manager Functions" (☞ pg. 38) for the operation.

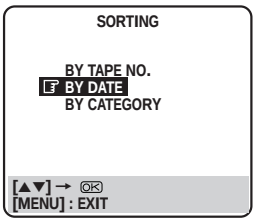
Sorting By Date

If you have recorded a lot of tapes with this recorder, this function is useful for searching for tape numbers sorted by date.

Perform steps **1** to **3** of "Sorting By Tape Number" on page 44 before continuing.

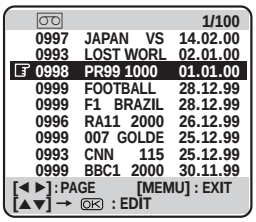
1 ACCESS DATE SCREEN

Press △▽ to move the highlight bar (pointer) to "BY DATE", then press **OK** or ▷.



2 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.



- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 40, 41).

3 RETURN TO NORMAL SCREEN

Press **MENU**.

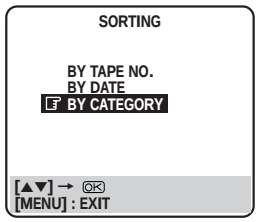
Sorting By Category

If you have recorded a lot of tapes with this recorder, this function is useful for finding out what category of programme is recorded on the tape.

Perform steps **1** to **3** of "Sorting By Tape Number" on page 44 before continuing.

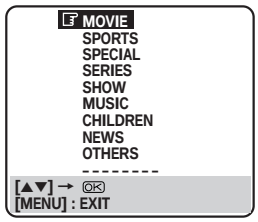
1 ACCESS CATEGORY SCREEN

Press △▽ to move the highlight bar (pointer) to "BY CATEGORY", then press **OK** or ▷.



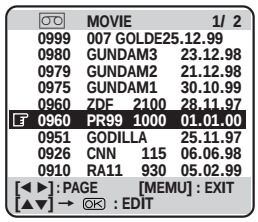
2 SELECT CATEGORY

Press △▽ to move the highlight bar (pointer) to the category you want to watch, then press **OK** or ▷.



3 SELECT TAPE NO.

Press △▽ to move the highlight bar (pointer) to the tape number you want to select, then press **OK**.

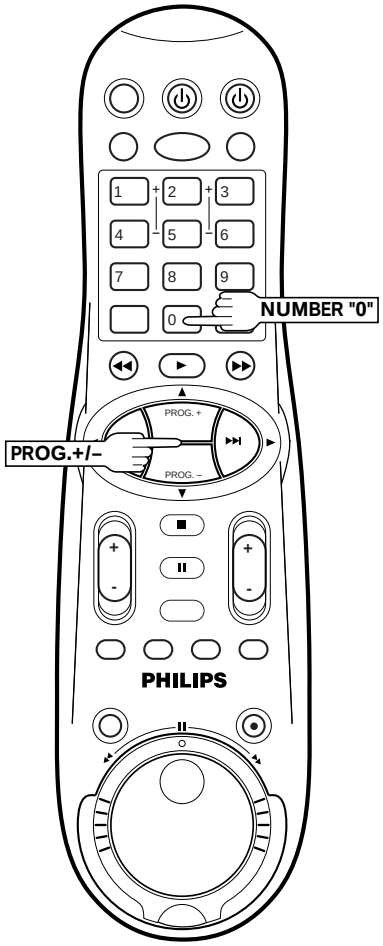


- The editing screen will appear. You can edit the tape title, or the programme title and category (☞ pg. 40, 41).

4 RETURN TO NORMAL SCREEN

Press **MENU**.

Edit From A Camcorder



NOTES:

- *All necessary cables can be obtained from your dealer.*
- *You can also use another video recorder as the player instead of a camcorder.*
- *When you are editing through the DV IN connector, the recorder will stop if the player begins playing a blank portion of tape or the signal is interrupted.*

You can use a camcorder as the source player and your video recorder as the recorder.
You can perform digital editing if the camcorder has a DV output connector.

1 MAKE CONNECTIONS

A *If the camcorder has no S-VIDEO output connector...*
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/VIDEO input connectors.

B *If the camcorder has an S-VIDEO output connector...*
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

C *If the camcorder has a DV OUT connector...*
... connect the camcorder's DV OUT connector to the recorder's DV IN connector.
See "DV Sound Setting" (☞ pg. 47) for the DV sound selection.

- When using a mono camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a certain camcorder with Master Edit Control is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 22, 23).

3 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **PROG. +/–** to select "F-1" for the AUDIO/VIDEO input connectors, "S-2" for the AUDIO/S-VIDEO input connectors, or "I-1" for the DV input connectors, depending on the connectors being used.

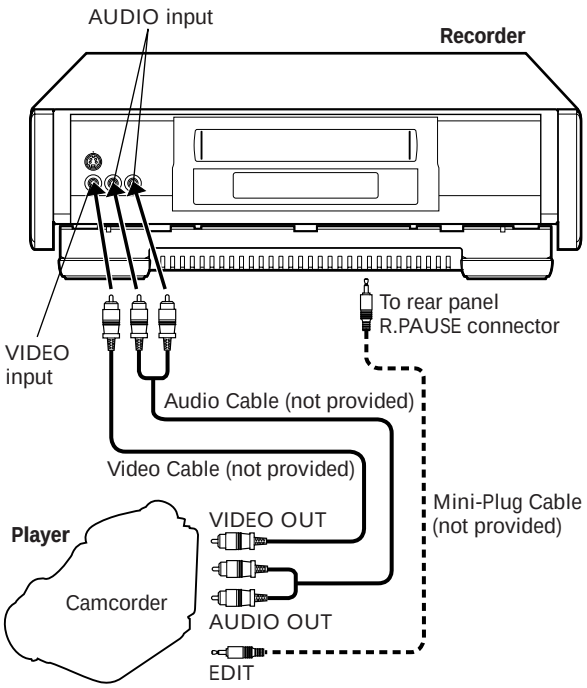
4 START CAMCORDER

Engage its Play mode.

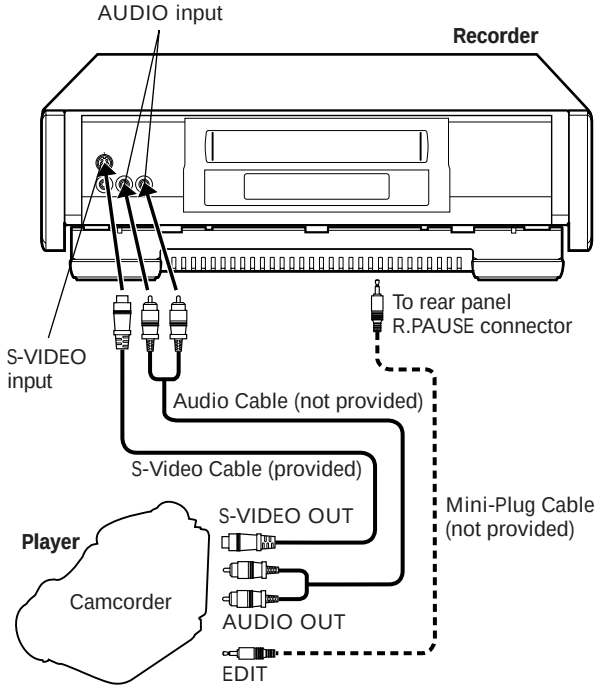
5 START RECORDER

Engage its Record mode.

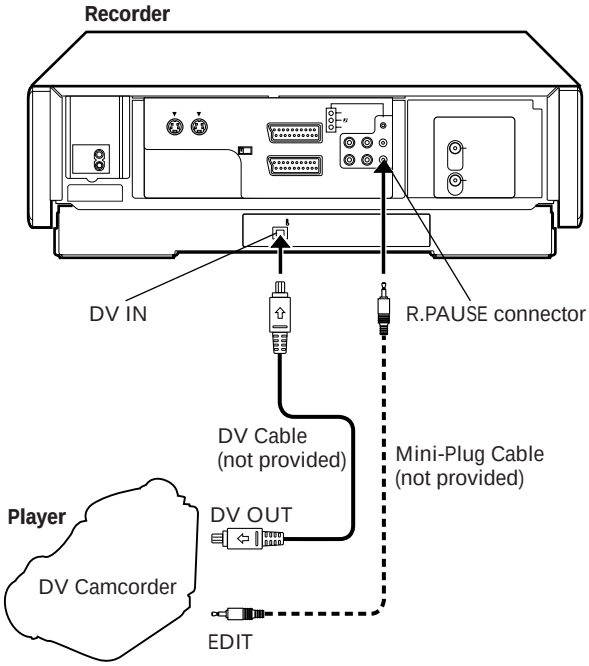
A If the camcorder has no S-VIDEO output connector...



B If the camcorder has an S-VIDEO output connector...



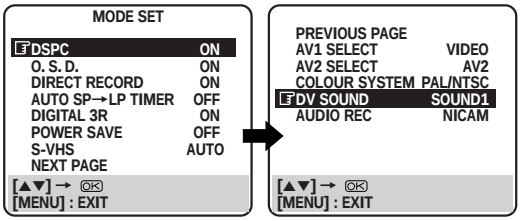
C If the camcorder has a DV OUT connector...



DV Sound Setting

Up to four audio signal channels can be input from a DV camcorder through the DV IN connector (i.Link). This recorder allows you to select and record two of these channels. This setting is used to specify which two channels to record.

1 Press **MENU** to access the Main Menu screen.
2 Move the highlight bar (pointer) to "MODE SET" by pressing △▽, then press **OK** or ▷.
3 Move the highlight bar (pointer) to "DV SOUND" by pressing △▽, then press **OK** or ▷ to select "SOUND1", "SOUND2" or "FULL".

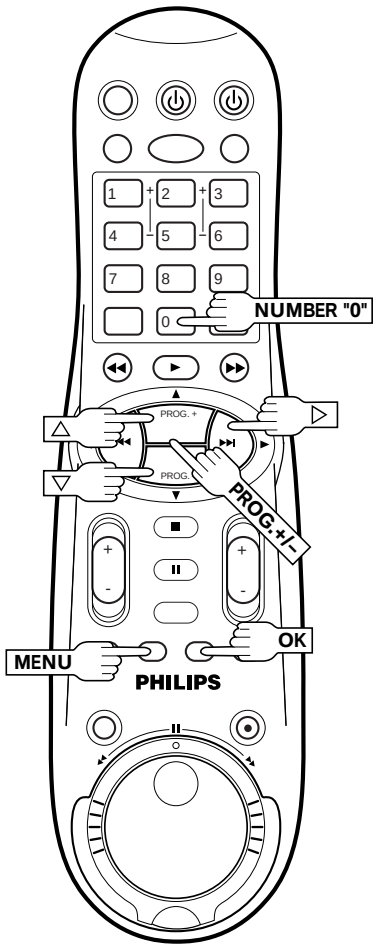


When there are four DV audio channels (32kHz):
SOUND 1: Records the two channels (L/R) of DV SOUND 1.
SOUND 2: Records the two channels (L/R) of DV SOUND 2.
FULL: Mixes and records both DV SOUND 1 and 2.

When there are two DV audio channels (48kHz):
Because there are only two channels, those two channels are recorded regardless of the DV sound setting.

4 Press **MENU** to return to the normal screen.

Edit To Or From Another Video Recorder



You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 49.

A *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 IN/OUT connector to the recording deck.

B *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

C *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 IN/OUT connector to another recorder.

With C connection ...
- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (☞ pg. 50).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (☞ pg. 4).

2 SET RECORDING MODE

Set the appropriate recording mode (D-VHS, S-VHS or VHS) (☞ pg. 22, 23).

3 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **PROG. +/–** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

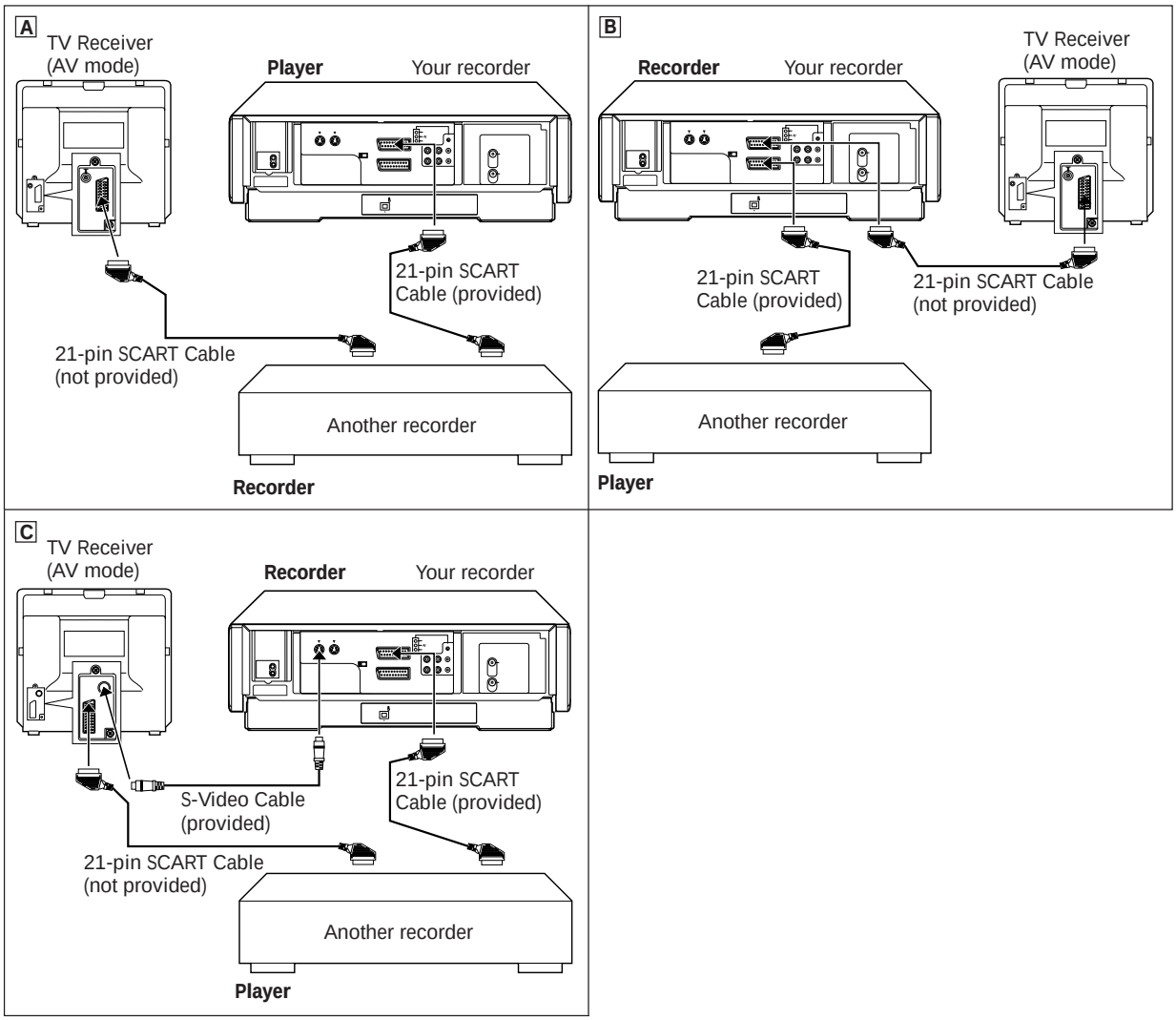
- When using the AV2 IN/DECODER connector, make sure "AV2 SELECT" is set to "AV2" (☞ pg. 50).

4 START SOURCE PLAYER

Engage its Play mode.

5 START RECORDING DECK

Engage its Record mode.



NOTES:

- *All necessary cables can be obtained from your dealer.*
- *For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.*
- *When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 11).*
- *If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO and AUDIO input/output connectors.*

  When Using Your Video Recorder As The Source Player ...

  ... connect its rear panel S-VIDEO and AUDIO output connectors to the recording deck's S-Video and Audio input connectors.

  When Using Your Video Recorder As The Recording Deck ...

  ... connect its rear panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors. Then, set the recorder's input mode to "S-1".

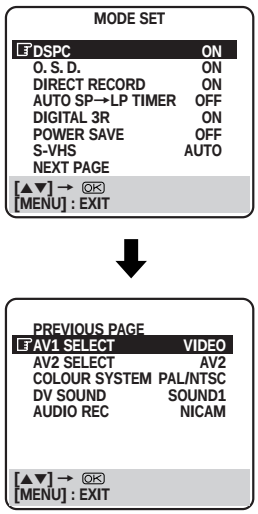
AV1 SELECT Setting

Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

1 Press **MENU** to access the Main Menu screen.
2 Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press △▽ to move the highlight bar (pointer) to "AV1 SELECT".
4 Press **OK** or ▷ to select "VIDEO" or "S-VIDEO".
- **a–**VIDEO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
- **b–**S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.

5 Press **MENU** to return to normal screen.

- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".



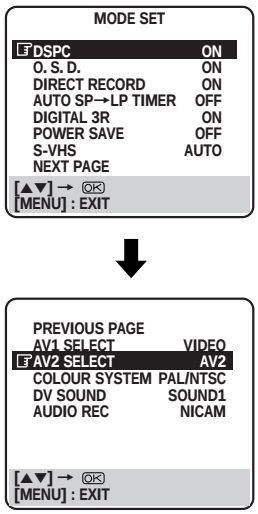
AV2 SELECT Setting

Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

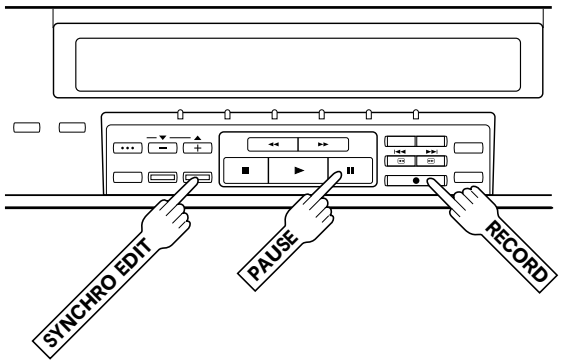
1 Press **MENU** to access the Main Menu screen.
2 Press △▽ to move the highlight bar (pointer) to "MODE SET", then press **OK** or ▷.
3 Press △▽ to move the highlight bar (pointer) to "AV2 SELECT".
4 Press **OK** or ▷ to select "AV2", "DECODER" or "SAT".
- **a–**AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
- **b–**DECODER : To use a decoder connected to the AV2 IN/DECODER connector. If "AV1 SELECT" is set to "S-VIDEO" and "AV2 SELECT" is changed to "DECODER", "AV1 SELECT" will be changed to "VIDEO" automatically.
- **c–**SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (☞ pg. 53)

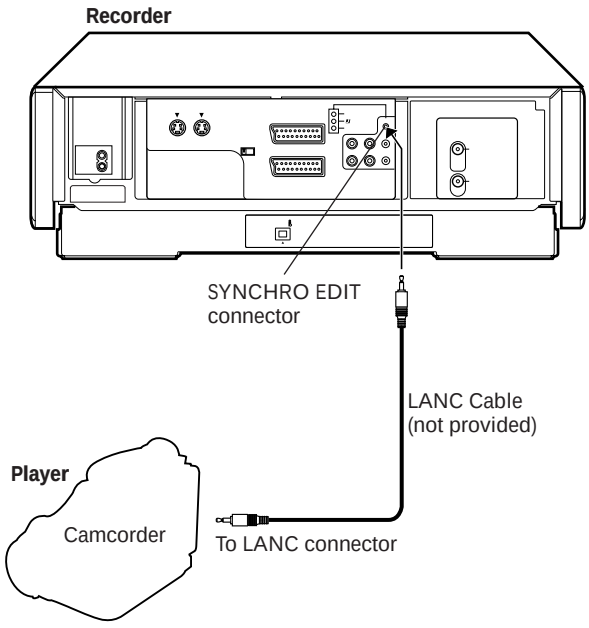
5 Press **MENU** to return to normal screen.

- If you have a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to "DECODER" after editing.
- If you're not connecting a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a decoder, be sure to set "AV2 SELECT" back to "DECODER".
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".



Synchro Editing (S-VHS/VHS Mode Only)





The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder with LANC connector and your video recorder.

1 MAKE CONNECTIONS

Connect your recorder to camcorder (☞ pg. 46), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

2 SET RECORDING MODE

Set the appropriate recording mode (S-VHS or VHS) (☞ pg. 23).

3 SET RECORDER'S INPUT MODE

Set the appropriate input mode, depending on the connectors being used in step **1**.

4 LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

5 START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

6 PAUSE SYNCHRO EDITING

Press **SYNCHRO EDIT** again.

- Repeat steps **4** – **6** as necessary.

NOTES:

- *The Synchro Editing function is impossible with the connection using DV connector.*
- *The Synchro Editing function may not work with the initial part of a camcorder tape.*
- *The Synchro Editing function cannot be used when using the JLIP function. (Pressing **SYNCHRO EDIT** cancels the JLIP function.)*
- *The Synchro Editing function may not work properly with some type of camcorder.*

J Terminal (JLIP (Joint Level Interface Protocol) Connector)

The J Terminal is used for service purposes.

Connection To A Satellite Tuner

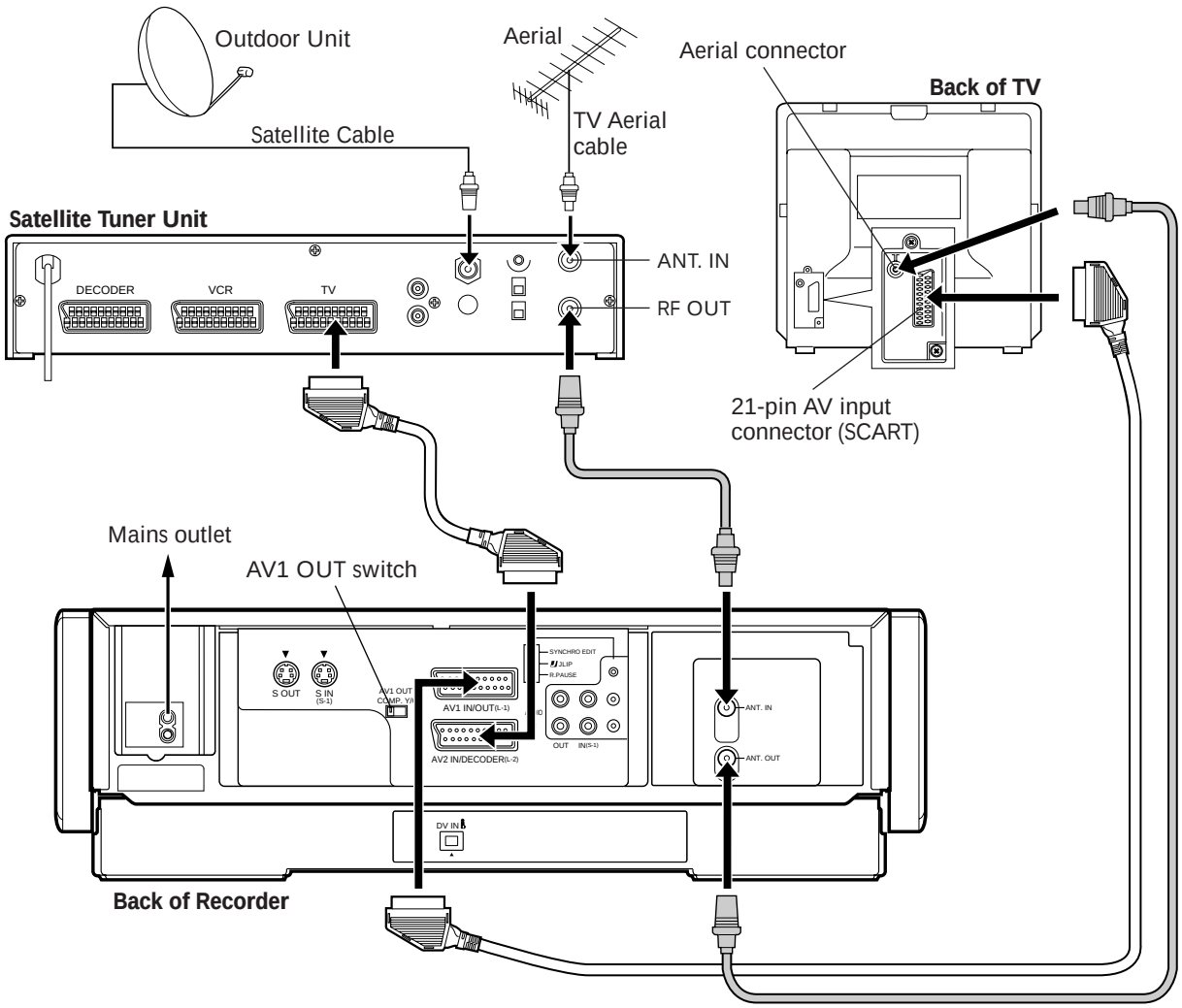
Simple Connections

This is an example of simple connection if you don't have a decoder.

Connect the satellite tuner to the video recorder's AV2 IN/DECODER connector, then connect the recorder's AV1 IN/OUT connector to the TV's 21-pin SCART connector.

NOTES:

- *Set "AV2 SELECT" to "AV2" or "SAT". (☞ pg. 50)*
- *You can use Automatic Satellite Program Recording function (☞ pg. 37) with this connection.*
- *To record a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **PROG. +/–** so that "L-2" appears on the display panel.*
- *If both the satellite tuner and the TV have S-VIDEO connectors, you can enjoy high-quality S-VHS pictures. Connect your recorder and the TV via S-VIDEO connection (☞ pg. 5), then connect the satellite tuner's S-VIDEO and AUDIO output connectors to the recorder's S IN and AUDIO IN connectors on the rear panel. Select S-1 mode by pressing **NUMBER** keys and/or **PROG.+/–**, so that "S-1" appears on the display panel.*
- *For details, refer to the instruction manual for the satellite tuner.*



IMPORTANT

When you set "AV2 SELECT" to "SAT" (☞ pg. 50), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.

- *In this case, be sure to set the **AV1 OUT** switch on the rear panel to COMP.*

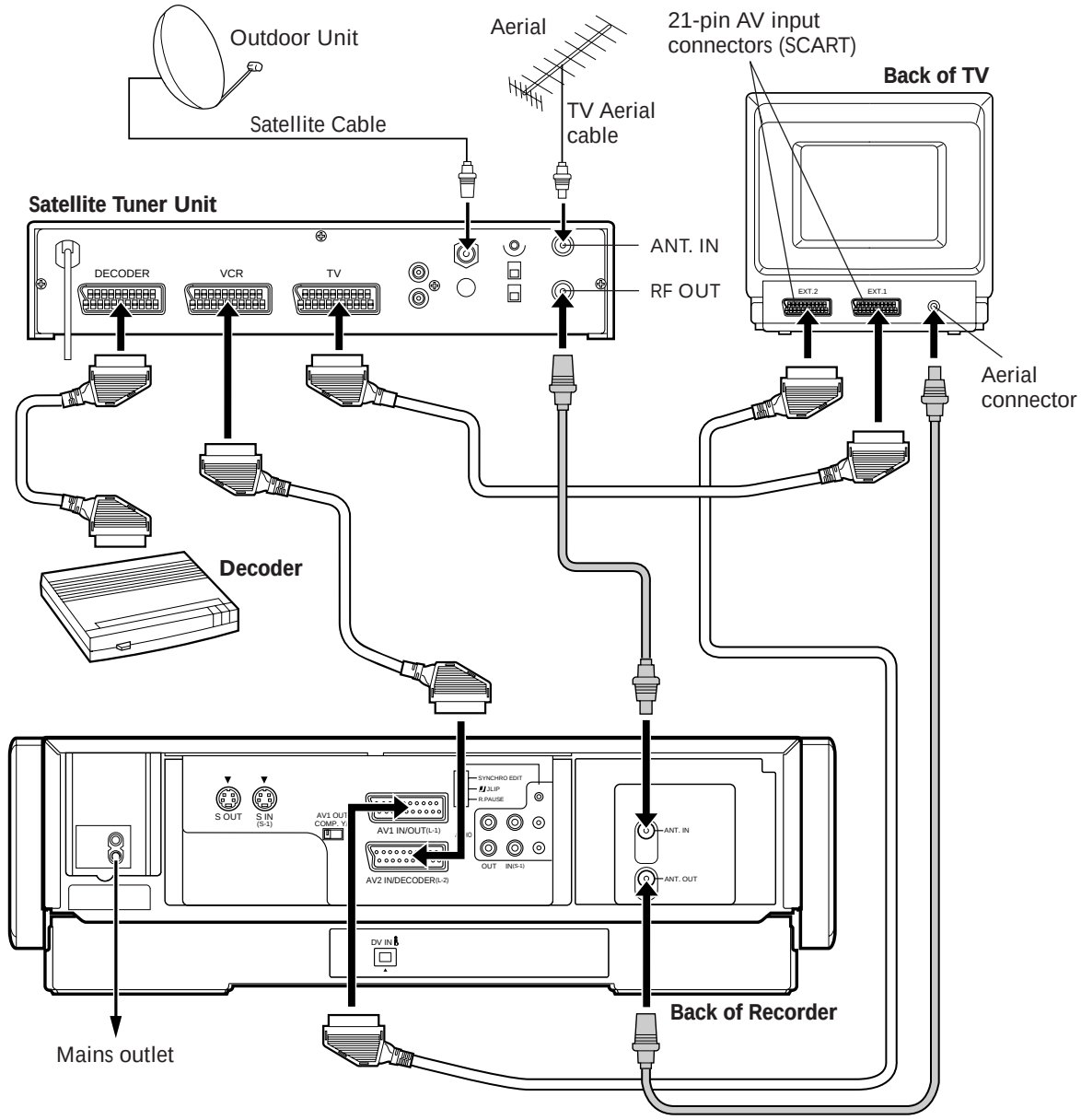
Perfect Connections

This is an example of recommended connection if you have both satellite tuner and decoder.

Connect the decoder to the satellite tuner's connector, AV1 IN/OUT connector to TV's connector, and AV2 IN/DECODER connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- *Set "AV2 SELECT" to "AV2". (☞ pg. 50)*
- *You can use Automatic Satellite Program Recording function (☞ pg. 37) with this connection.*
- *To record a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **PROG. +/–** so that "L-2" appears on the display panel.*
- *To receive a scrambled broadcast, descramble the signal with the satellite tuner.*
- *For details, refer to the instruction manual for the satellite tuner and decoder.*



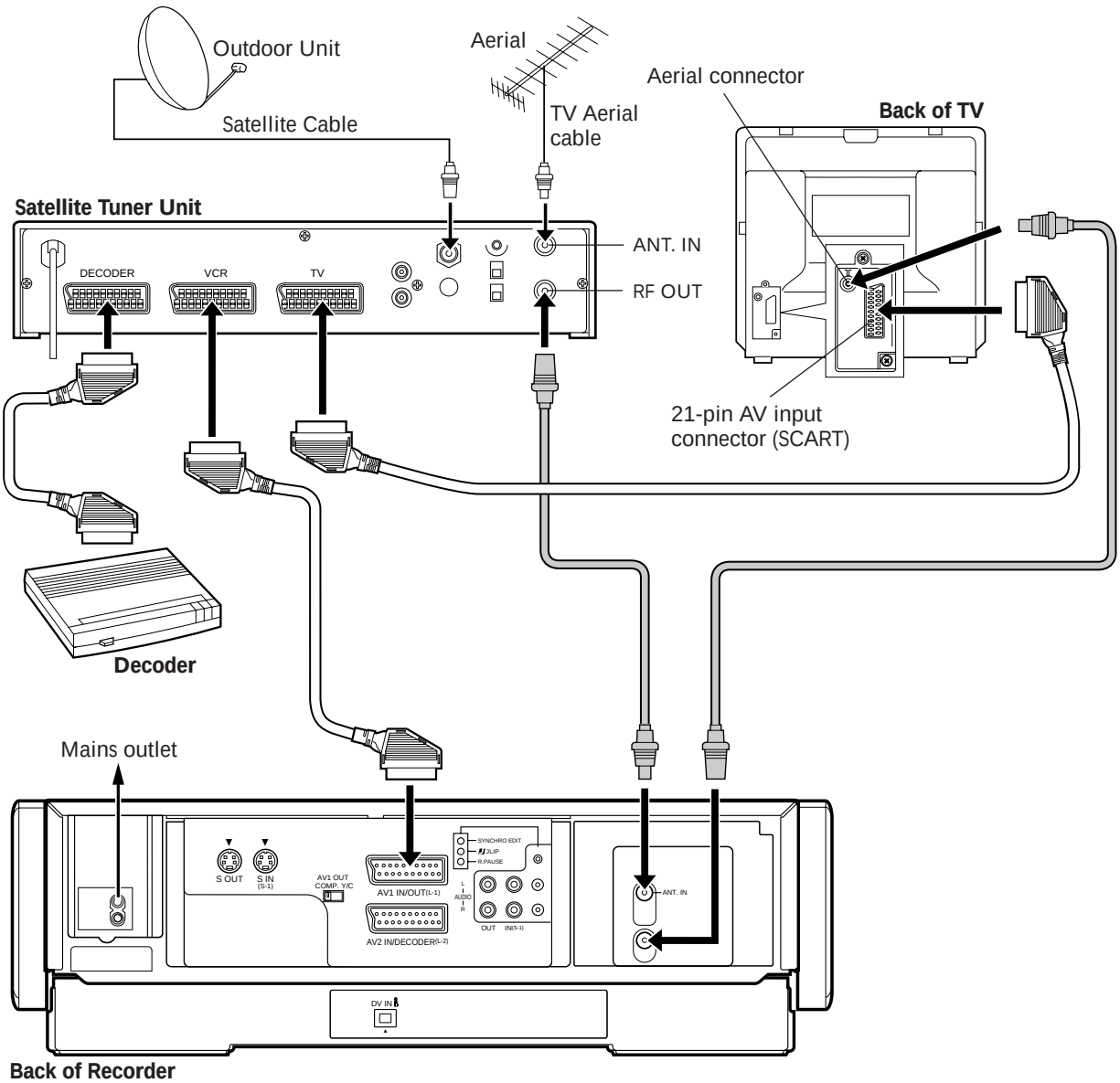
Basic Connections

This is an example of basic connection if you have both satellite tuner and decoder.

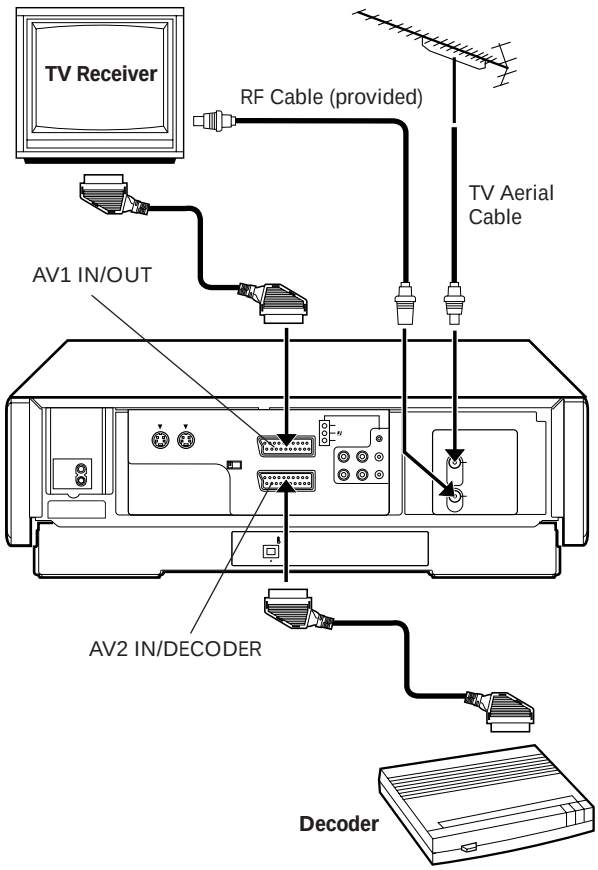
Connect the decoder to the satellite tuner's connector and AV1 IN/OUT connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- *To record a satellite programme which delivers the Y/C signal, set "AV2 SELECT" to "AV2" and "AV1 SELECT" to "S-VIDEO". You can obtain high-quality S-VHS picture.*
- *If you connect your recorder's S OUT and AUDIO OUT connectors to the TV, you can enjoy high-quality S-VHS pictures.*
- *Automatic Satellite Program Recording function is not possible with this connection.*
- *To record a programme via the satellite tuner, select L-1 mode by pressing **NUMBER** keys and/or **PROG. +/–** so that "L-1" appears on the display panel.*
- *To receive a scrambled broadcast, descramble the signal with the satellite tuner.*
- *For details, refer to the instruction manual for the satellite tuner and decoder.*



Connecting / Using A Decoder



The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

1 SELECT INPUT MODE

Set "AV2 SELECT" to "DECODER". (☞ pg. 50)

2 CONNECT DECODER

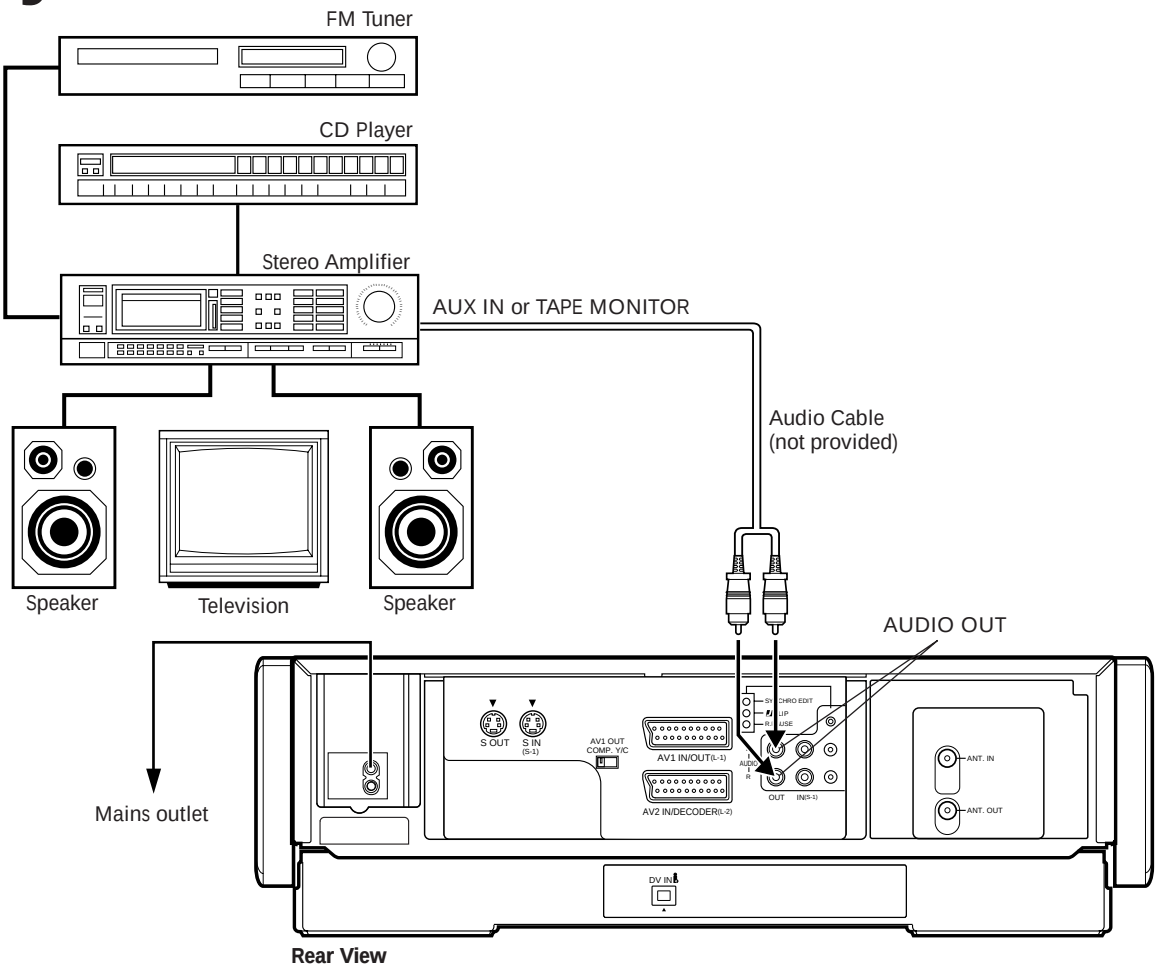
Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.

3 SET TUNER

Perform the procedure as described in "When Receiving A Scrambled Broadcast" on page 61.

Connecting / Using A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.



Rear View

1 MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

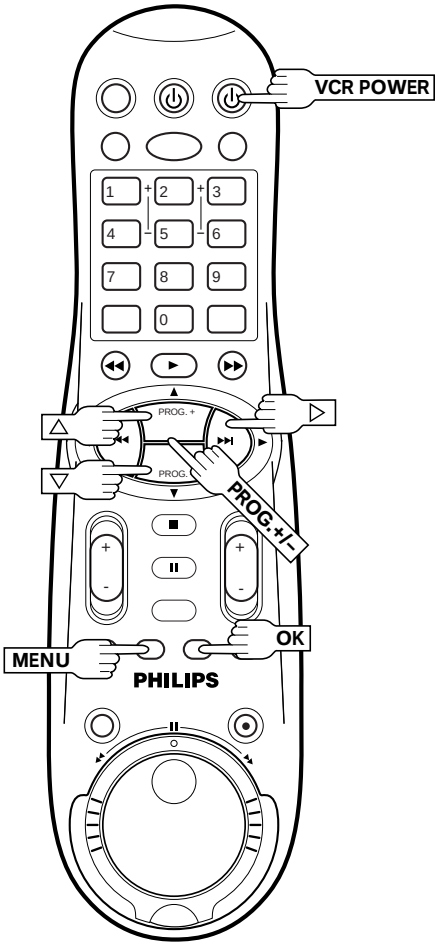
- *When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.*
- *If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.*
- *When listening to sound through the connected stereo system, turn the TV's volume down completely.*

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Tuner Set

Turn on the TV and select the AV mode.



IMPORTANT

Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function or by Preset Download (☞ pg. 6, 8).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **PROG. +/–** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

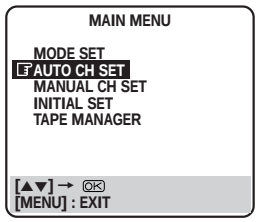
Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS AUTO CH SET SCREEN

Press △▽ to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or ▷.

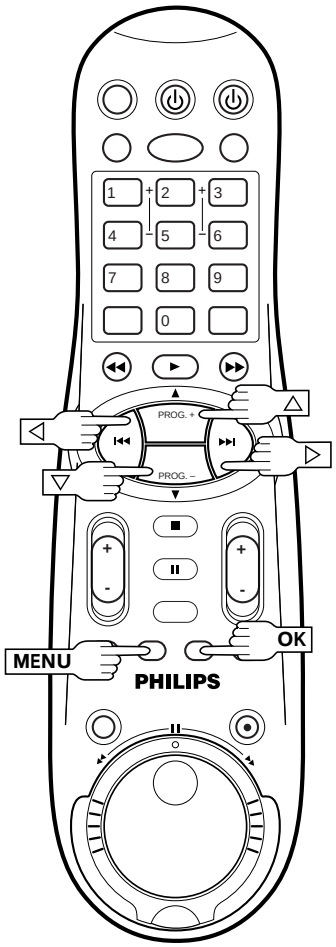


4 SELECT COUNTRY

Press △▽ to move the highlight bar (pointer) to your country's name, then press **OK** or ▷.

5 SELECT LANGUAGE

Press △▽ to move the highlight bar (pointer) to the language of your choice.



IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the SHOWVIEW system, the recorder will record a TV programme of a different station. When programming the timer using the SHOWVIEW system, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 30, "SHOWVIEW® Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 61.

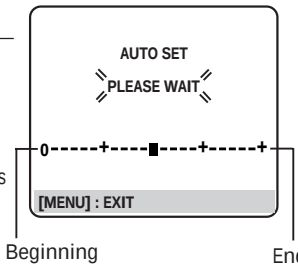
NOTES:

- *Fine tuning is performed automatically during Auto Channel Set. If you want to perform it manually, refer to page 64.*
- *If you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step **7**. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.*
- *If no sound accompanies the picture or the audio suounds unnatural on some channels that have been stored by Auto Set Up, the TV system setting for those channels may be incorrect. Select the appropriate TV system for those channels. ☞ "INFORMATION" on page 64.*

6 PERFORM AUTO CHANNEL SET

Press **OK** twice.

- You can set up the recorder's tuner also by Preset Download (☞ pg. 8).
- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations.



As Auto Channel Set progresses, the " ■ " mark on the screen moves from left to right.
Wait until the screen as shown in step **7** appears.

7 VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, the Confirmation screen looking like the one to the right appears. The stations your recorder located appear on a Confirmation screen — channel positions (PR), channels (CH) and station names (ID – ☞ pg. 63). The blueback screen and the programme currently being broadcast by the blinking station appear alternately for 8 seconds each.
To view the next page, use the △▽ ◁▷ button on the remote control.

PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	C08	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12		----
06	C32	BBC2	13		----
07	C33	3SAT	14		----

[▲▼◀ ▶]
→ OK : EDIT
→ [CLEAR] : DELETE
[MENU] : EXIT

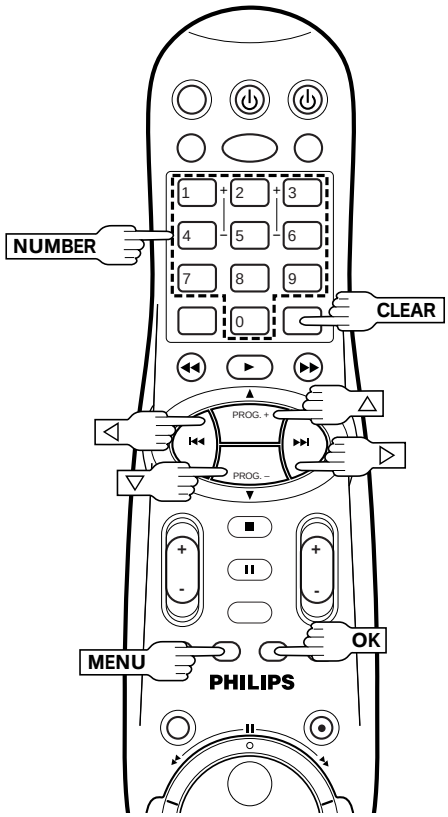
C: Cable

- The stations located in the selected country appear at the top of the list.
- The Guide Program numbers will also be set automatically during Auto Channel Set.

8 RETURN TO NORMAL SCREEN

Press **MENU**.

- Using the Confirmation screen, you can skip or add channel positions, enter station names and perform other operations. Refer to pages 60 – 64 for the procedures.
- Depending on reception conditions, the stations may not be stored in order, and the station names may not be stored correctly.
- For information on scrambled broadcasts, refer to page 61.



Storing Channels Manually

Store channels that were not stored during Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 58).

1 ACCESS MAIN MENU

Press **MENU**.

2 ACCESS CONFIRMATION SCREEN

Press △▽ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or ▷. The Confirmation screen appears.

3 SELECT POSITION

Press △▽ ◁▷ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 12.

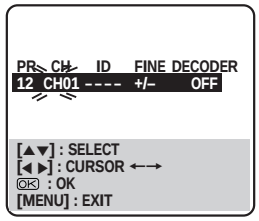
PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	CDB	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12		----
06	C32	BBC2	13		----
07	C33	3SAT	14		----

[▲▼◀ ▶]
→ OK : EDIT
→ [CLEAR] : DELETE
[MENU] : EXIT

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4 SELECT BAND

Press △▽ to change the band between CH (regular) and CC (cable), then press ▷.



The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5 INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- Input "0" before any single number entries.
- To input the registered station name (ID – ☞ pg. 63), press ▷ until "----" (ID setting) begins blinking, then press △▽.
- For fine tuning adjustment, press ▷ until "+/–" begins blinking, then press △▽. While tuning, "+" or "–" appears.
- When storing a channel that sends scrambled broadcasts, press ▷ until "OFF" (Decoder setting) blinks, then press △▽ to set "DECODER" to "ON" ("OFF" is the default setting).
- When "AV2 SELECT" is set to "AV2" or "SAT", the "DECODER" setting cannot be changed (☞ pg. 50).

6 ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps **3** through **6** as necessary.

7 CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Channel Position" (☞ pg. 61).
- If you wish to set station names other than the ones registered in your recorder, ☞ "Set Stations (B)" on page 62.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with the ShowView system in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 31.
Or perform "Guide Program Number Set" (☞ pg. 65).

Delete A Channel

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press △▽ ◁▷ until the item you want to delete begins blinking.

2 DELETE CHANNEL

Press **CLEAR**.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

Change Station Channel Position

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

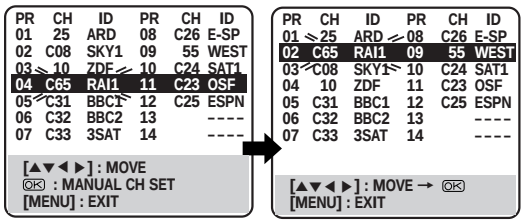
1 SELECT ITEM

Press △▽ ◁▷ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2 SELECT NEW POSITION

Press △▽ ◁▷ to move the station to the new channel position, then press **OK**.

Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.


PR CH ID PR CH ID
01 25 ARD 08 C26 E-SP
02 C08 SKY1 09 55 WEST
03 10 ZDF 10 C24 SAT1
04 C65 RAI1 11 C23 OSF
05 C31 BBC1 12 C25 ESPN
06 C32 BBC2 13 ----
07 C33 3SAT 14 ----
[▲▼◀ ▶] : MOVE
OK : MANUAL CH SET
[MENU] : EXIT
PR CH ID PR CH ID
01 25 ARD 08 C26 E-SP
02 C65 RAI1 09 55 WEST
03 C08 SKY1 10 C24 SAT1
04 10 ZDF 11 C23 OSF
05 C31 BBC1 12 C25 ESPN
06 C32 BBC2 13 ----
07 C33 3SAT 14 ----
[▲▼◀ ▶] : MOVE → OK
[MENU] : EXIT

- Repeat steps **1** and **2** as necessary.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

When Receiving A Scrambled Broadcast

1 SELECT DECODER MODE

Set "AV2 SELECT" to "DECODER" (☞ pg. 50).

2 ACCESS CONFIRMATION SCREEN

Perform steps **1** and **2** of "Storing Channels Manually" on page 60.

3 SELECT POSITION

Press △▽ ◁▷ to select the channel position broadcasting scrambled programmes, then press **OK** twice.

4 CHANGE DECODER SETTING

Press ▷ until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing △▽.

5 RETURN TO CONFIRMATION SCREEN

Press **OK**.

- Repeat steps **3** through **5** as necessary.

6 CLOSE CONFIRMATION SCREEN

Press **MENU**.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
- Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
- Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.

* In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
If an attempt is made at timer programming with the SHOWVIEW system in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ☞ "ATTENTION – Regarding Guide Program Number Set" on pg. 31.
Or perform "Guide Program Number Set" (☞ pg. 65).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1 SELECT ITEM

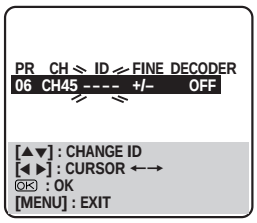
Press △▽ ◁▷ until the item you want begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3 SELECT NEW STATION

Press ▷ until the station name (ID) begins blinking, then press △▽ until the new station's name (ID) you want to store begins blinking.
Registered station names (☞ pg. 63) appear as you press △▽.



4 SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **4** as necessary.

5 CLOSE CONFIRMATION SCREEN

Press **MENU**.

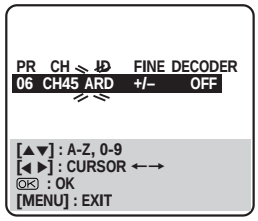
Set Stations (B)

Set station names other than the ones registered in your recorder.

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen and then perform step **1** and **2** of "Set Stations (A)" on the left before continuing.

1 SELECT STATION NAME CHARACTER

Press ▷ until the first letter of the station name begins blinking.



2 ENTER NEW CHARACTER

Press △▽ to cycle through the characters (A–Z, 0–9, –, ✶, +, ␣ (space)) and stop when the desired character is indicated, then press ▷ to enter. Enter the remaining characters the same way (maximum of 4).
After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press ◁ until the incorrect character begins blinking. Then enter the correct character by pressing △▽.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

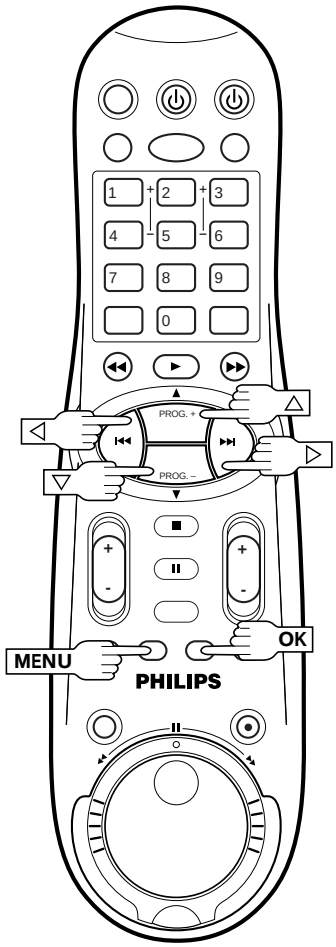
The characters available for the station name (ID) are A–Z, 0–9, –, ✶, +, ␣ (space) (maximum of 4).

TV Station And ID List

ID*	STATION NAME
1000	TV1000
3SAT	3SAT
ADLT	ADULT
ANT3	ANTENA3
ARD	ARD
ARTE	ARTE
BBC	BBC GROUP
BBC1	BBC1
BBC2	BBC2
BR3	BAYERN3
C+	CANAL PLUS
C1	PORTUGUSES
CAN5	CANALE5
CANV	KETNET CANVAS
CH4	CHANNEL4
CH5	CHANNEL5
CHLD	CHILD
CINE	CINEMA
CLUB	TELECLUB
CMT	CMT
CNN	CNN
CSUR	ANDALUCIA
DISC	DISCOVERY
DR	DR TV
DRS	DRS
DSF	DSF
ETB1	ETB1
ETB2	ETB2
EURO	EURONEWS
EUSP	EUROSPORTS
FEMM	FEMMAN
FILM	FILM
FNET	FILMNET
FR2	France2
FR3	France3
GALA	GALAVISION
HR3	HESSEN3
INFO	INFO-KANAL
ITA1	ITALIA1
ITA7	ITALIA7
ITV	ITV
JSTV	JSTV
KA2	KA2
KAB1	KABEL1
KAN2	KANAL2
LOCA	LOCAL
M6	M6
MBC	MBR
MCM	MCM
MDR	MDR
MOVE	MOVIE
MTV	MTV
MTV3	MTV3
N3	NORD3
N-TV	N-TV
NBC	NBC SUPER
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
NEWS	
NICK	NICKELODEON
NRK	NRK
NRK2	NRK2
ODE	ODEON
ORF1	ORF1

ID*	STATION NAME
ORF2	ORF2
ORF3	ORF3
OWL3	OWL3
PREM	PREMIERE
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RET4	RETE4
21	TELE21
RTBF	RTBF1 or 2
RTL	RTL
RTL2	RTL2
RTL4	RTL4
RTL5	RTL5
RTP	RTP
S4	SCHWEIZ4
SAT1	SAT1
SBS	SBS
SHOW	SHOW
SIC	SOCIEDADE
SKY	SKY CHANNEL
SKYN	SKY NEWS
SPRT	SPORT
SRTL	SUPER RTL
STAR	STAR-TV
SVT1	SVT1
SVT2	SVT2
SWR	SUEDWEST3
TCC	TCC
TELE	TELE
TEL5	TELE5
TF1	TF1
TM3	TM3
TMC	TELEMONTECARLO
TNT	TNT INT
TRT	TRT INT
TSI	TSI
TSR	TSR
TV1	BRTN TV1
TV2	TV2
TV3	TV3
TV4	TV4
TV5	TV5
TV6	TV6
TVE1	TVE1
TVE2	TVE2
TVG	TV GALICIA
TVI	TV INDEPENDENT
TVN	TV NORGE
VCR	VIDEO
VERO	VERONICA
VH-1	VH-1
VIVA	VIVA
VIV2	VIVA2
VMTV	VIDEO MUSIC
VOX	VOX
VT4	VT4
VTM	VTM
WDR1	West1
WDR3	West3
YLE1	YLE1
YLE2	YLE2
ZDF	ZDF
ZTV	ZTV

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen when the recorder is tuned to a different station.



Fine-Tuning Channels Already Stored

Perform steps **1** and **2** of "Storing Channels Manually" on page 60 to access the Confirmation screen before continuing.

1 SELECT CHANNEL TO FINE-TUNE

Press △▽ ◁▷ until the channel you want to tune begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3 PERFORM TUNING

Press ▷ until "+/–" begins blinking, then press △▽ until the picture is its clearest. Then press **OK**.

- The Confirmation screen appears.
- Repeat steps **1** through **3** as necessary.

4 CLOSE CONFIRMATION SCREEN

Press **MENU**.

INFORMATION

If you live in Eastern Europe, "TV SYSTEM" setting appears instead of "DECODER" setting on the Manual Channel Set screen. When you can see the picture but can hear no audio, select appropriate TV system (D/K or B/G). Normally, TV programmes are broadcasted as follows.
For Eastern Europe : D/K
For Western Europe : B/G

1. Select a country in Eastern Europe in step **4** on page 58.
2. Press ▷ until the TV system (D/K or B/G) blinking on the Manual Channel Set screen in step **4** on page 60.
3. Press △▽ to select appropriate TV System (D/K or B/G).

SHOWVIEW® Setup

IMPORTANT

Normally, Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 58) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- *When timer-programming with the SHOWVIEW system, the channel position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Number for that station manually.

- *When you delete a channel or change channel positions manually after Auto Set Up or Auto Channel Set has taken place.*

— Set the Guide Program Numbers for all the receivable stations manually.

- *When you wish to timer-record a satellite programme with the SHOWVIEW system.*

— Set the Guide Program Numbers for all satellite broadcasts received on your satellite tuner.

Turn on the TV and select the AV mode.

Guide Program Number Set

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS INITIAL SET SCREEN

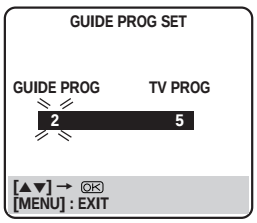
Press △▽ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or ▷.

3 ACCESS GUIDE PROG SET SCREEN

Press △▽ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or ▷.

4 ENTER GUIDE PROG NUMBER

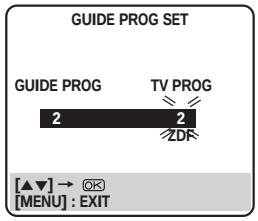
Press △▽ or **NUMBER** keys to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or ▷.



(Ex.) When inputting the Guide Program number 2 for ZDF.

5 ENTER RECEIVING CHANNEL POSITION NUMBER

Press △▽ or **NUMBER** keys to input the number of the recorder's channel position on which the Guide Program number's broadcast is received. Then press **OK** or ▷.



(Ex.) If ZDF is received on channel position 2.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-1" or "L-2", select "L-1" or "L-2" for the channel position, depending on the connection to the satellite tuner (☞ pg. 53 – 55).
- Repeat steps **4** and **5** as necessary.

6 RETURN TO NORMAL SCREEN

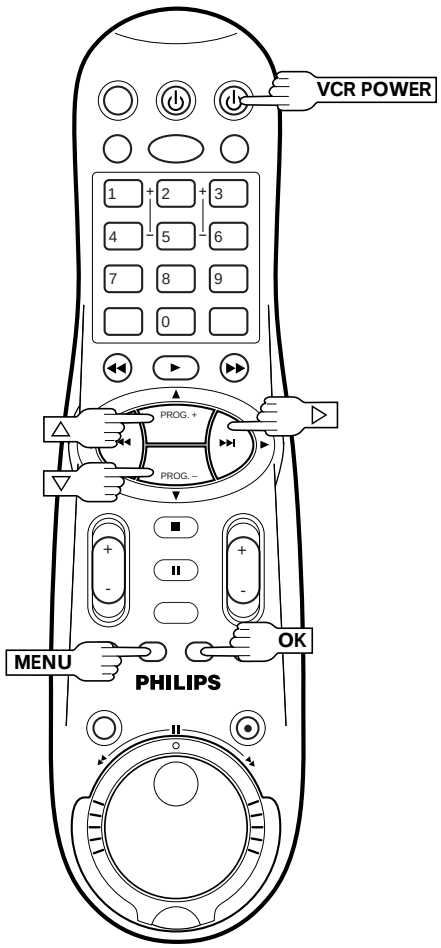
Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for the SHOWVIEW timer recording. The Guide Program numbers can be found in most TV listings.

Clock Set

Turn on the TV and select the AV mode.



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "OFF"). Press **OK** until the Just Clock setting begins blinking, then press △▽ to change the setting.

IMPORTANT: If you turn off Just Clock, the accuracy of your recorder's built-in clock may be reduced, which could adversely effect timer recording. We recommend you to keep Just Clock on. In cases where the clock setting data from a PDC signal is incorrect, however, you are advised to keep Just Clock set to "OFF".

IMPORTANT

If you performed Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 58), without ever having set the clock previously, the recorder's built-in clock is also set automatically.
Perform the following steps only if —
— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.
or
— the recorder's memory backup has expired.
or
— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press **VCR POWER**.

2 ACCESS MAIN MENU SCREEN

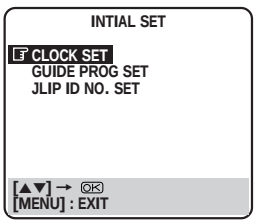
Press **MENU**.

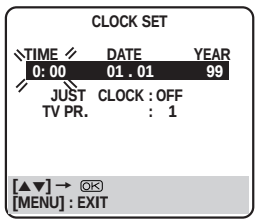
3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing △▽, then press **OK** or ▷.

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing △▽, then press **OK** or ▷. The Clock Set screen appears.





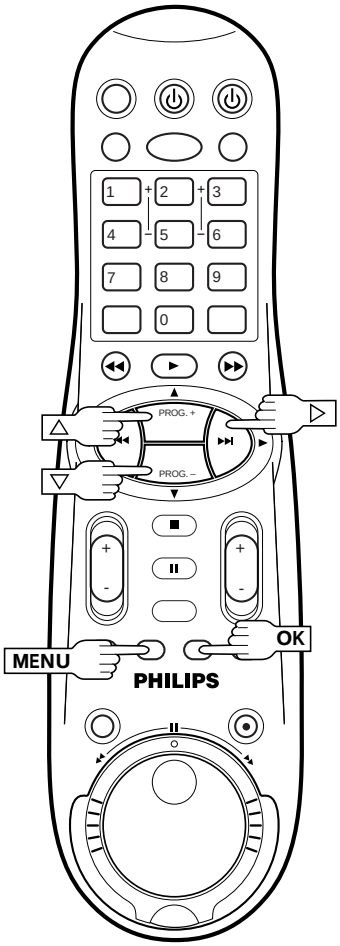
NOTE:

When you have selected MAGYARORSZAG (36), CESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (☞ pg. 6, 10), you cannot use Just Clock function. Skip steps **6** and **7** on page 67.

5 SET DATE AND TIME

Press △▽ to set the time, then press **OK** or ▷. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold △▽ to change the time by 30 minutes.
- When you set the date, press and hold △▽ to change the date by 15 days.



6 SET JUST CLOCK

The default setting is "OFF". Set as desired by pressing △▽, then press **OK** or ▷.

- For the Just clock function, ☞ "Just Clock" on page 66.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE CHANNEL POSITION

The recorder is preset to receive clock setting and adjustment data from channel position 1. Press △▽ to set the channel position to the number representing the station transmitting clock setting data, then press **OK** or ▷.

8 START CLOCK OPERATION

Press **MENU**.

NOTES:

- *Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.*
- *Just Clock is not effective when . . .*
  - *– the recorder's power is on.*
  - *– the recorder is in the Timer mode.*
  - *– a difference of more than 3 minutes exists between the built-in clock's time and the actual time.*
  - *– the recorder is in the Auto Satellite Prog Rec mode (☞ pg. 37).*
  - *– the recorder is in the Power Save mode (☞ pg. 12).*
- *If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer Time.*
- *Just Clock may not function properly depending on the reception condition.*

Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	● The mains power cord is disconnected.	Connect the mains power cord.
2. The remote control won't function.	● The batteries are discharged.	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	● "⏸" is displayed on the display panel.	Press **PLAY** to turn the "⏸" indicator off.
2. The tape will not rewind or fast-forward.	● The tape is already fully rewound or fast-forwarded.	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	● If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	● This is normal.	
3. Noise appears during normal playback.	● The automatic tracking mode is engaged.	Try manual tracking. (☞ pg. 17)
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	● The video heads may be dirty.	Consult your PHILIPS dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	● Automatic tracking is engaged.	Engage and adjust tracking manually (☞ pg. 17), or set the soundtrack to "NORM" (☞ pg. 21).

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	● There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	● "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2" has been selected as the input mode.	Set to the desired channel.
3. Tape-to-tape editing is not possible.	● The source (another video recorder, camcorder) has not been properly connected. ● All necessary power switches have not been turned on. ● The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".
4. Camcorder recording is not possible.	● The camcorder has not been properly connected. ● The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "I-1", "L-1", "L-2", "F-1", "S-1" or "S-2".

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	● The clock and/or the timer have been set incorrectly. ● The timer is not engaged.	Re-perform the clock and/or timer settings. Press **VCR POWER** and confirm that "◴" is displayed on the display panel.
2. Timer programming is not possible.	● Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "◴" and "▭" on the display panel won't stop blinking.	● The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "◴" and "▭" on the display panel won't stop blinking.	● The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "◴" blinks for 10 seconds and the Timer mode is disengaged.	● **VCR POWER** has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-program as necessary, then press **VCR POWER** again.
6. The cassette is automatically ejected, the power shuts off and "◴" and "▭" won't stop blinking. However, the cassette may not be ejected when the front panel is closed.	● The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme. When the front panel is closed and the cassette cannot be ejected fully, push the cassette into the recorder, then press **EJECT** to remove the cassette.
7. The SHOWVIEW system does not timer-record properly.	● The recorder's channel positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 65).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	● The camcorder's microphone is too close to the TV. ● The TV's volume is too high.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	● Those channels have been designated to be skipped.	If you need the skipped channels, restore them (☞ pg. 60).
3. The channel cannot be changed.	● Recording is in progress.	Press **PAUSE** to pause the recording, change channels, then press **PLAY** to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	● After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	● The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (☞ pg. 6).
6. The remote control won't operate the TV.	● The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (☞ pg. 77).

Error Code

Some error codes may appear on the TV screen when operating the recorder. Refer to the chart below for the solution.

ERROR CODE	SYMPTOM	SOLUTION
102	● When a signal in which only the analog information is copy protected has been input for the dubbing in D-VHS mode.	It is not possible to record a digitally copy protected signal.
103	● When a signal which is digitally copy protected has been input for dubbing in D-VHS mode.	It is not possible to record a digitally copy protected signal.
104	● When a signal which cannot be digitally converted by the recorder has been recorded.	Sometimes a programme can be recorded but not played back because the signal system is not supported by the recorder. Switch to analog input such as "L-1" to record.
105	● When making an S-VHS/VHS recording of a signal from DV IN connector (i.Link).	The recorder's DV IN connector (i.Link) is especially for D-VHS recording. The digital signal is not converted to analog and then recorded. Switch to analog input such as "L-1" to record.
200	● When a signal which cannot be digitally converted by the recorder has been input and played back.	Playback is impossible because a signal system not supported by the recorder has been input.
201	● When normal playback is impossible such as with a mosaic (block-shaped noise).	The recorder is making adjustments in order to display normal picture. Please wait.
205	● When an attempt is made to play back a D-VHS recorded tape that has been found to be invalid.	This tape cannot be played back by this recorder.
300	● When a signal which cannot be digitally converted by the recorder has been input.	Nothing can be seen or heard because the signal system is not supported by the recorder.

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?
A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?
A. No. It stops automatically after 5 minutes to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?
A. No, it is normal.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?
A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?
A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?
A. No. The video recorder goes to its Stop mode automatically after 5 minutes to protect the heads.

Q. What happens if the tape runs out during recording?
A. The video recorder automatically rewinds it to the beginning.

TIMER RECORDING

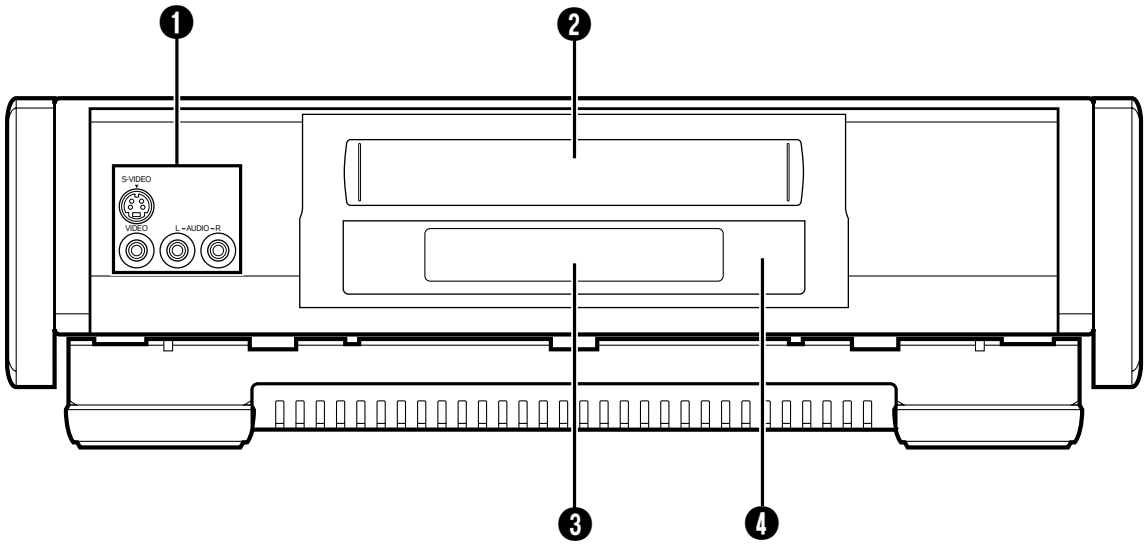
Q. "◌" and "◴" remain lit on the display panel. Is there a problem?
A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?
A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the programme or tape you're viewing can be heard.

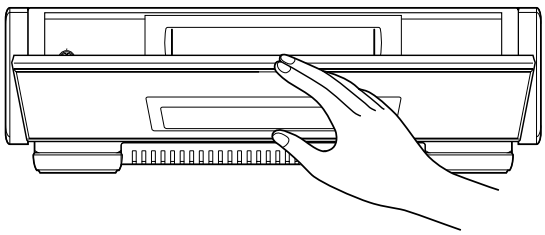
Q. Is it possible to timer-record a TV programme broadcast in 2000?
A. Yes, it is possible.

ATTENTION
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

FRONT VIEW

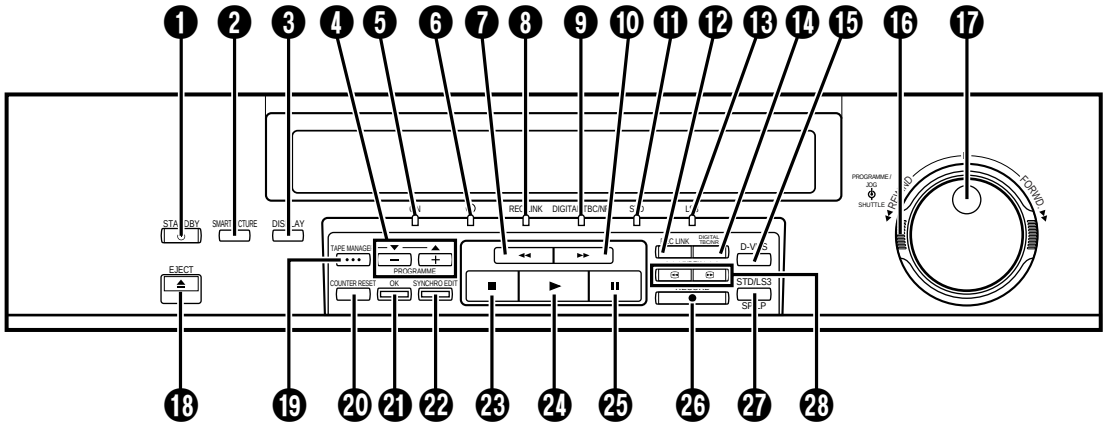


❶ S-VIDEO/VIDEO/AUDIO Input Connectors ☞ pg. 46
❷ Cassette Loading Slot
❸ Display Panel ☞ pg. 75
❹ Infrared Beam Receiving Window



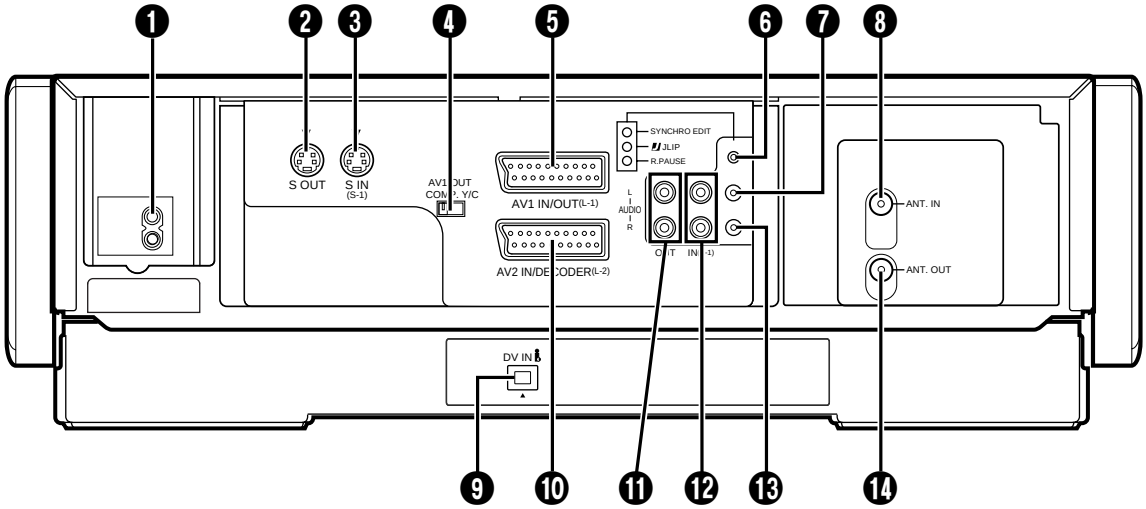
Pull the front panel to access covered buttons/connectors.

INSIDE VIEW OF FRONT PANEL



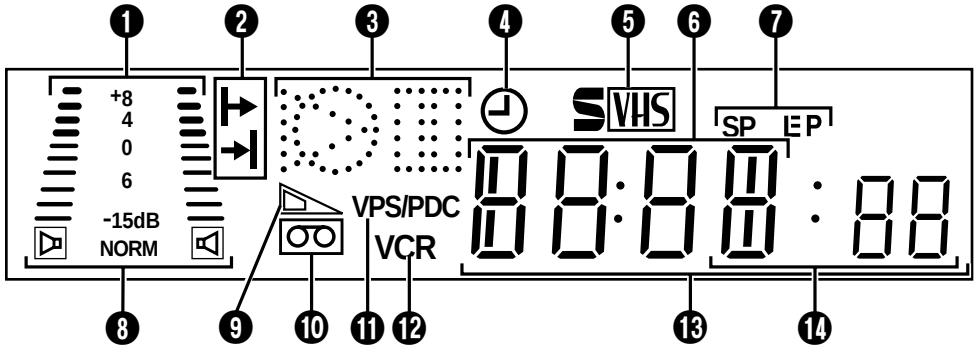
❶ STANDBY ⏻ Button ☞ pg. 6
❷ SMARTPICTURE Button ☞ pg. 20
❸ DISPLAY Button ☞ pg. 25
❹ PROGRAMME +/– Buttons ☞ pg. 22
TAPE MANAGER ▲▼ Buttons ☞ pg. 38
❺ ON Indicator
❻ ◴(TIMER) Indicator ☞ pg. 31, 33
❼ Rewind [REW] Button ☞ pg. 15, 17
❽ REC LINK Indicator ☞ pg. 37
❾ DIGITAL TBC/NR Indicator ☞ pg. 19
❿ Fast Forward [FF] Button ☞ pg. 15, 17
⓫ STD Indicator ☞ pg. 22
⓬ REC LINK Button ☞ pg. 37
⓭ LS3 Indicator ☞ pg. 22
⓮ DIGITAL TBC/NR Button ☞ pg. 19
⓯ D-VHS Button ☞ pg. 22
⓰ SHUTTLE Ring ☞ pg. 16, 17
⓱ PROGRAMME Dial ☞ pg. 22
JOG Dial ☞ pg. 16
⓲ EJECT Button ☞ pg. 15
⓳ TAPE MANAGER Button ☞ pg. 38
⓴ COUNTER RESET Button ☞ pg. 25
㉑ OK Button ☞ pg. 7
㉒ SYNCHRO EDIT Button ☞ pg. 51
㉓ STOP Button ☞ pg. 15
㉔ PLAY Button ☞ pg. 15
㉕ PAUSE Button ☞ pg. 16
㉖ RECORD Button ☞ pg. 22
㉗ STD/LS3 Button ☞ pg. 22
SP/LP Button ☞ pg. 23
㉘ INDEX/PICTURE SEARCH I◄◄/◄◄ and ►►I/►► Buttons — same as ◁ ▷ Button on remote control ☞ pg. 16 – 18

REAR VIEW



❶ Mains Power Inlet ☞ pg. 4
❷ S OUT Connector ☞ pg. 5
❸ S IN Connector ☞ pg. 49
❹ AV1 OUT Switch ☞ pg. 4
❺ AV1 IN/OUT Connector ☞ pg. 4, 48, 53 – 56
❻ SYNCHRO EDIT Connector ☞ pg. 51
❼ J terminal [JLIP (Joint Level Interface Protocol) Connector] ☞ pg. 52
❽ ANT. IN Connector ☞ pg. 4
❾ DV IN Connector (i.Link*) ☞ pg. 46
** i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i logo is used for products compliant with the i.Link standard.*
❿ AV2 IN/DECODER Connector ☞ pg. 48, 53 – 56
⓫ AUDIO OUT (L/R) Connectors ☞ pg. 57
⓬ AUDIO IN (L/R) Connectors ☞ pg. 49
⓭ Remote PAUSE Connector ☞ pg. 46
⓮ ANT. OUT Connector ☞ pg. 4

DISPLAY PANEL

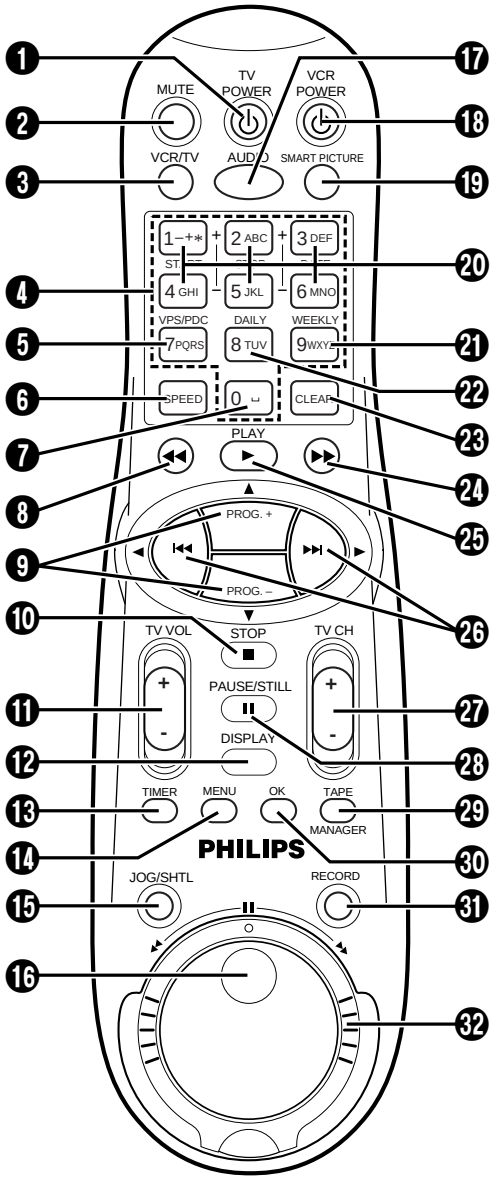


❶ DSPC System Display ☞ pg. 28
Audio Level Indicator
❷ Programme Time Indicators ☞ pg. 32
❸ Symbolic Mode Indicators

PLAY: FF/REW VARIABLE SEARCH:	▷	STILL: SLOW:	▷
		RECORD:	○
		RECORD PAUSE:	○

❹ "Timer" Indicator ☞ pg. 31, 33
❺ S-VHS Indicator ☞ pg. 26
❻ Channel/Clock Display ☞ pg. 9
❼ Tape Speed Indicators ☞ pg. 23
** EP is only for NTSC playback*
❽ Audio Mode Indicator ☞ pg. 21
❾ Tape Remaining Time Indicator ☞ pg. 25
❿ "Cassette Loaded" Mark
⓫ VPS/PDC Indicator ☞ pg. 31, 33
⓬ VCR Indicator ☞ pg. 53
⓭ Counter/Remain Display
(If the counter exceeds –20 hours ("–20:00:00"), the display does not show the "–2" of "–20:00:00". In this case, confirm the counter on the TV screen.)
⓮ Mode Display (I-1, L-1, L-2, F-1, S-1 or S-2)

REMOTE CONTROL



❶ TV POWER Button ☞ pg. 77
❷ MUTE Button ☞ pg. 77
❸ VCR/TV Button ☞ pg. 77
❹ NUMBER Keys ☞ pg. 22, 30
❺ VPS/PDC Button ☞ pg. 31, 33
❻ SPEED Button ☞ pg. 22, 23
❼ AUX Button ☞ pg. 46
❽ Rewind [REW] Button ☞ pg. 15, 17
❾ △▽ Buttons ☞ pg. 6
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❿ STOP Button ☞ pg. 15, 22
⓫ TV VOL (Volume) +/– Button ☞ pg. 77
⓬ DISPLAY Button ☞ pg. 25
⓭ TIMER Button ☞ pg. 30, 32
⓮ MENU Button ☞ pg. 10
⓯ JOG/SHTL Button ☞ pg. 16
⓰ JOG Dial ☞ pg. 16
⓱ AUDIO Button ☞ pg. 21
⓲ VCR POWER Button ☞ pg. 6
⓳ SMARTPICTURE Button ☞ pg. 20
⓴ START +/– Buttons ☞ pg. 32
STOP +/– Buttons ☞ pg. 32
DATE +/– Buttons ☞ pg. 32
㉑ WEEKLY Button ☞ pg. 31, 33
㉒ DAILY Button ☞ pg. 31, 33
㉓ CLEAR Button ☞ pg. 30, 35, 41 – 43
㉔ Fast Forward [FF] Button ☞ pg. 15, 17
㉕ PLAY Button ☞ pg. 15
㉖ ◁▷ Buttons ☞ pg. 16
㉗ TV CH +/– Button ☞ pg. 77
㉘ PAUSE/STILL Button ☞ pg. 16
㉙ TAPE MANAGER Button ☞ pg. 38
㉚ OK Button ☞ pg. 7
㉛ RECORD Button ☞ pg. 22
㉜ SHUTTLE Ring ☞ pg. 16, 17

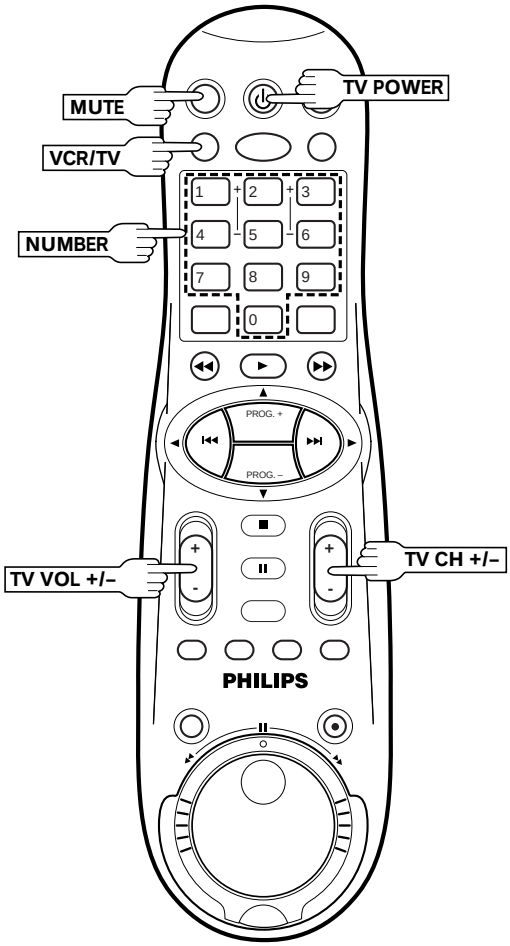
How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets of PHILIPS and other brands. (☞ pg. 77)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- *When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.*
- *If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.*



Operating TV

You can use this remote control to operate your TV. To use this remote control for operating the TV, you first need to set the TV's brand code properly.
The default setting of the TV's brand code is "PHILIPS 01".

NOTE:

Though this remote control can operate most of the PHILIPS TVs as well as many other manufacturers', some of the TVs will not operate or some functions available on the TVs will not work with this remote control.

1 SET TV BRAND CODE

Press and hold **TV POWER**, then press **NUMBER** keys to enter your TV's brand code, referring to the table below.

- For example, for 02, press **0** then **2**.
- The remote control can now operate the TV of the selected code.

2 CONFIRM SETTING

Press **TV POWER**, pointing the remote control at the TV.
If the TV turns on or off, your setting is completed.
If not, repeat steps above, using another code.

NOTES:

- *The buttons you can use to operate your TV are **TV POWER**, **TV CH +/–**, **VCR/TV**, **TV VOL +/–** and **MUTE**.*
- *After replacing the batteries, you need to reset the TV's brand code again.*

TV BRAND NAME	CODE
PHILIPS	01, 02, 03
EMERSON	14
GOLDSTAR	04
GRUNDIG	24, 25
HITACHI	12
JVC	05
MITSUBISHI	13, 26
PANASONIC	07, 17, 19, 20
RCA	10
SAMSUNG	18
SANYO	11
SHARP	16
SONY	09
THOMSON	21, 22, 23
TOSHIBA	08
ZENITH	06, 15

GENERAL

Power requirement	: AC 220 – 240 V∿, 50/60 Hz
Power consumption	
Power on	: 36 W
Power off	: 8.7 W
Temperature	
Operating	: 5°C to 40°C
Storage	: –20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 468 x 145 x 369 mm
Weight	: 8.0 kg
Maximum recording time	
D-VHS (STD)	: 420 min. with DF-420 video cassette
D-VHS (LS3)	: 1260 min. with DF-420 video cassette
S-VHS/VHS (SP)	: 240 min. with E-240 video cassette
S-VHS/VHS (LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO (D-VHS)

Format	: MPEG2 standard mode
Track composition	
Tape speed	: 16.67 mm/sec (STD mode) 5.56 mm/sec (LS3 mode)
Head azimuth	: ±30 deg
Drum rotation	: 1800 rpm
Tracking system	: CTL track system
Recording specification	
Main data input rate	: 14.1 Mbps (STD mode) 4.7 Mbps (LS3 mode)
Sub data input rate	: 0.146 Mbps (STD mode) 48.7 Kbps (LS3 mode)
Recording rate	: 19.14 Mbps
Track structure	: 1 Sector
Length of sync block	: 112 bytes
Inner ECC	: RS code
Outer ECC	: RS code
Code word shuffling	: 6 tracks
Modulation system	: SI-NRZI

VIDEO/AUDIO (S-VHS/VHS)

Format	: S-VHS/VHS PAL standard
Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	: DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)

CONNECTOR

Input/Output	: 21-pin SCART connectors : IN/OUT x 1, IN/DECODER x 1 CINCH connectors: VIDEO IN x 1, AUDIO IN x 2, AUDIO OUT x 1 S-Video connectors: IN x 2, OUT x 1 DV connector : IN x 1 (4-pin, IEEE1394 conformity, digital input)

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470MHz UHF 470 – 862MHz
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable, S-Video cable, 21-pin SCART cable, Power cord, Infrared remote control unit, "R6" (AA) battery x 2, D-VHS Cassette

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

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PHILIPS

VR20D/58

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LPT0358-001B